

Roll No.

Total No. of Pages : 01

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M.Tech. (ECE) (Sem.-2)
SATELLITE COMMUNICATION

Subject Code : MTEC-PE3A-18

M.Code : 76261

Date of Examination : 15-05-2024

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. a) Draw the block diagram for satellite communication system. Explain the function of each block. (6)
- b) Explain three Kepler's laws of planetary motion. (6)
2. a) Derive the expression for the time period of satellite's orbit. (6)
- b) Compare the low earth orbit and geostationary satellite systems. (6)
3. a) What are the various subsystems in the satellite? Explain the power system. (6)
- b) What is Doppler frequency shift? Derive the expression for it. (6)
4. a) Discuss various modulation and multiplexing techniques used with satellite links. (8)
- b) Explain the architecture of a satellite communication system. (4)
5. a) Explain the TTC&M satellite subsystem with a neat diagram. (6)
- b) Explain the Altitude and Orbit Control System (AOCS) with necessary diagram. (6)
6. a) Derive the expression for system noise temperature of a satellite link. (6)
- b) Compare FDMA, TDMA and CDMA techniques. (6)
7. a) Explain DBS-TV. (6)
- b) Explain how satellite telephony is implemented by using LEO. (6)
8. a) Explain in detail GPS position location principles. (6)
- b) Explain the multiple access technique distinguished with respect to time that is used in satellite communication systems. (6)

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.