

PART – B (5 x 3= 15 Marks)

6. Mention the apogee and perigee height. CO1- R
7. What is meant by transponder? CO2- U
8. What are the limitations of FDMA-satellite access? CO3- R
9. A satellite downlink at 12GHz operates with a transmit power of 6W and antenna gain of 48.2 db. Calculate the EIRP in dBW. CO4- App
10. List out the satellite mobile services. CO5- R

PART – C (5 x 16= 80Marks)

11. (a) (i) Express the three Kepler's laws of planetary motion and list the various orbital parameters. CO1- U (10)
- (ii) Estimate the suitable equations for look angles and the range for geo stationary satellite. CO1- U (6)
- Or
- (b) (i) Explain the steps involved in launching the satellite into the geo stationary orbit. CO1- U (10)
- (ii) Justify how altitude and orbit control is achieved from an earth station? CO1- U (6)
12. (a) (i) Solve C/N ratio is directly proportional to G/T ration from the calculation of system noise temperature. CO2- U (8)
- (ii) Describe briefly the factors governing the design of satellite links. CO2- U (8)
- Or
- (b) (i) Explain the necessity of power amplifier in the transponder. CO2- U (8)
- (ii) Describe briefly satellite uplink analysis. CO2- U (8)
13. (a) (i) Express FDMA in detail and also enumerate the interference in FDMA. CO3- U (8)
- (ii) Explain the operation of digital TASI in TDMA operation. CO3- U (8)
- Or
- (b) (i) Illustrate the features of varies multiple access schemes deployed for satellite access and compare it. CO3- U (8)
- (ii) Explain direct sequence spread spectrum communication in detail. CO3- U (8)

14. (a) (i) Explain in detail MATV and CATV systems with suitable diagram. CO4 - U (8)
- (ii) Describe briefly communication payload and supporting systems. CO4 - U (8)
- Or
- (b) Elaborate the procedures involved in test equipment measurements on G/T, C/N₀ and EIRP with reference to the earth segment. CO4 - U (16)
15. (a) Describe briefly the types of INTELSAT satellites with respect to basic space craft characteristics and vehicle types. CO5- U (16)
- Or
- (b) Discuss the services of the following system with its usage. CO5- U (4)
- (i) VSAT
- (ii) E-mail CO5- U (4)
- (iii) BTV CO5- U (4)
- (iv) DTH CO5- U (4)

