

IV B.Tech I Semester Supplementary Examinations, November 2005
SATELLITE COMMUNICATIONS
(Common to Electronics & Communication Engineering and Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain in detail the space and ground segments of a satellite communication network. [16]
2. (a) What is meant by look angles? Explain them with reference to a geostationary satellite. [8]
(b) Name the orbital aspects which are of importance in synchronous satellite communication. Explain these aspects. [8]
3. (a) Explain in detail about tracking subsystem with neat block diagram. [8]
(b) What is doppler effect? Explain how is it useful for tracking. [8]
4. What is faraday's rotation? How it affects the satellite communication? Explain how it is eliminated. [16]
5. (a) Present the satellite link budget for a downlink and find out G/T ratio. [8]
(b) i. Distinguish between C/N ratio and G/T ratio. [4]
ii. How do you perform path loss calculations. [4]
6. (a) Explain the Code Division Multiplexing. Discuss the frequency hopping CDMA. [8]
(b) Compare the advantages and disadvantages among TDMA, FDMA and CDMA techniques. [8]
7. (a) What is meant by tracking and pointing? Explain its significance. [8]
(b) Explain various types of antennas used in satellite earth stations. [8]
8. (a) Draw the block diagram of OUTDOOR unit for a DBS home receiver and explain the function of each block. [10]
(b) Explain how beam steering can be achieved in parabolic reflector antenna. [6]
