Satellite Communication Question Bank

EEE-VIII Sem

1 Explain about frequency allocations for satellite services.

2) Explain about U.S Domsats.

3). Discuss briefly the development of INTELSAT starting from the 1960s through the present.

4). What is meant by polar orbiting? Explain in detail.
5). State Kepler's three laws of planetary motion. Illustrate in each case their relevance to artificial satellites orbiting the earth.
6). Explain in detail the geocentric-equatorial coordinate system which is based on the earth's equatorial plane.

7). Explain in detail about topocentric-horizon coordinate system which is based on the

8)Explain in detail about antenna look angles and the polar mount antenna.

9). Explain about Earth eclipse of satellite and sun transit outage.

10) Explain about launching orbits.

11). Explain what is meant by satellite attitude and briefly describe two forms of attitude Control .
12). Draw the block diagram of TT&C and explain its blocks.

13). Describe briefly the most common type of high-power amplifying device used aboard a communication satellite.

14). Explain about wideband receiver and advanced Tiros-N spacecraft.

15). Describe briefly the antenna subsystem and Anik-E. (16) 9. Explain in detail about thermal control and Morelos.

16) Explain with an example the type of traffic route where single access is used.

17). Explain in detail about FDMA and show how this differs from FDM

18). Explain in detail the operation of a preassigned SCPC network.

19). Explain in detail the operation of the spade system of demand assignment. What is the function of the common signaling channel?

20). Describe the general operating principles of a TDMA network. Show how the transmission bit rate is related to the input bit rate.

21). Explain the need for reference burst and preamble and postamble in a TDMA System .

22)Explain in detail about network synchronization with neat sketch.

23). Define and explain the terms carrier recovery, bit-time recovery, traffic data, frame efficiency and channel capacity.

24) Explain in detail about speech interpolation and prediction.

25) Explain in detail about satellite switched TDMA.

26) Describe briefly about on board signal processing for FDMA/TDM operation.

27). Describe in your own words how signal acquisition and tracking are achieved in a DS/SS system . And also derive the expression for maximal sequence.

28) Explain the principle behind spectrum spreading and dispreading and how this is used to minimize interference in a CDMA system. Also determine the throughput efficiency of the system.

29). Explain the classifications of system noise temperature.

30). Explain uplink satellite circuit

31) Explain downlink satellite circuit.

32). Describe briefly about the rains effects.

33) Explain about inter-satellite link.

34). Explain about indoor and outdoor unit of home receiver.

35). Explain about frequencies and polarization, transponder capacity and bit rates for digital television. 36). Explain in detail about satellite mobile services.

37). Describe the operation of typical VSAT system. State briefly where VSAT systems and find widest applications.

38). Describe the main features of Radarsat. Explain what is meant by dawn to dusk orbit and why the Radarsat follows such on orbit.

39). Explain why a minimum of four satellites are visible at an earth location utilizing the GPS system for position determination. What does the term dilution of precision refer to?

40) Describe the main features and services offered by the orbcomm satellite system. How do these services offered by geostationary satellites and terrestrial cellular systems?