

### IMPORTANT QUESTIONS:

1. Write a note satellite frequency allocation.
2. What are the advantages and applications of digital satellite communication systems?
3. Compare between TDMA & FDMA?
4. Define and explain system noise temperature, C/N & G/T ratio in reference of satellite link design.
5. Explain atmospheric and ionospheric effects on general link design.
6. Explain earth station parameters.
7. Write short note on (i) MODEM (ii) CODEC
8. Explain the concept of energy dispersal by suggesting techniques employed to achieve it.
9. Explain SCPC (single carrier per channel) and CSSB (companded sideband) systems.
10. Write a technical note on digital link design by including suitable mathematical formulation.
11. Explain (i) QAM (ii) GMSK (iii) CDMA ( )
12. What do you mean by TDMA burst time plan, TDMA-superframe and TDMA frame efficiency?
13. Differentiate between transponder hopping and satellite switched TDMA satellite system?
14. Enlist and explain different orbital parameters with the help of suitable diagram.
15. What is eclipse effect? Explain in detail. Also tell why a communication engineer should know about it.
16. Draw the basic block diagram of optical satellite link receiver. What are the advantages and disadvantages of heterodyne detection systems?
17. Explain satellite beam acquisition, tracking and positioning in LASER satellite communication system.  
i. **10+10**
18. Explain (i) LEO and MEO Satellite (ii) VSAT (iii) MSAT (iv) INTELSAT (v) VSAT (vii) IMMERSAT
19. What are intermodulation products in FM/FDM Systems & how they affect the overall C/N ?
20. Derive the general link design equation for analog satellite communication.
21. Explain earth station parameters. Also, differentiate between active and passive satellites.
22. Write an expression for S/N in frequency modulation with multiplexed telephone signals in satellite link. Also explain different factors effecting S/N.
23. Explain the interference effects on complete link design in case of analog satellite communication. **10+10**
24. Explain the elements of digital satellite communication systems with the help of a block diagram and explain different methods of satellite stabilization using suitable diagram.
25. Draw the basic block diagram of optical satellite cross link. Also explain the function of each block.