

1. Math from UDP/TCP
2. What is satellite? Describe its working procedure.
3. Advantage and disadvantage of satellite
4. How Satellites are used based on service?
5. Describe the satellite based on mode of communication or way of communication.
6. Described the Satellite based on orbit/distance with advantage and disadvantage.
7. List out the frequency bands of different kinds of satellites.
8. Why active and passive satellite is used?
9. When a system is said to be wireless?
10. Define frequency re-use. What are the challenges of wireless technology?
11. How to make an **international/global** call using cellular system? Explain in brief.
 - i. Mobile to Mobile
 - ii. Mobile to Telephone
12. How to make a **local** call using cellular system? Explain in brief.
 - i. Mobile to Mobile
 - ii. Mobile to Telephone
13. What are the reasons for handoff? How handoff procedure works?
14. If a total of 500 KHz of bandwidth is allocated to a particular FDD cellular telephone system which uses **three pair** of 40Hz simplex channels. Compute the number of channels available per cell if a system uses (a) 4-cell reuse, (b) 6-cell reuse.
15. If $i=1$ and $j=3$ then calculate (a) Co-channel reuse ratio and (b) Signal to Interference Ratio. Assume that there are 6 co-channels. The path loss exponent is $n=3$.
16. If a signal to interference ratio of 20 dB is required for satisfactory forward channel performance of a cellular system, what is the frequency reuse factor (Q) and cluster size (N) that should be used for maximum capacity if the path loss exponent is (a) $n=3$, (b) $n=5$? Assume that there are 5 co-channels cells in the first tier and all of them are at the same distance from the mobile.

17. Write short note:

- i. VLR
- ii. HLR
- iii. MSC
- iv. BSC
- v. EIR