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# **SATHYABAMA UNIVERSITY**

(Established under section 3 of UGC Act,1956)

Course & Branch :B.Tech - IT

Title of the Paper :Telecommunication Systems Max. Marks :80

Sub. Code :412505-512505-612503

Time : 3 Hours

Date :11/11/2009

Session :FN

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**PART - A**

**(10 x 2 = 20)**

**Answer ALL the Questions**

1. What is meant by free space wave propagation?
2. Define radiation resistance.
3. Define snell's law.
4. Why is Numeric Aperture(NA) important for optical fiber?
5. What are the importance of geosynchronous satellites?
6. Define Kepler's law.
7. Write the specifications of equipment busy tone.
8. What is the purpose of RJ-11 connector?
9. What is meant by frequency reuse?
10. Define Co-channel interference.

PART – B  
Answer All the Questions

(5 x 12 = 60)

11. Explain the different types of antennas with their characteristics and radiation pattern.  
(or)
12. Describe the terrestrial wave propagation methods with necessary sketch.
13. Describe the different types of losses in optical fiber cables.  
(or)
14. Explain the various functional units of fiber optic communication system with neat sketch.
15. Describe the functions of satellite link models with suitable block diagram.  
(or)
16. Describe the various functional units of CDMA encoder and decoder with block diagram.
17. Describe the block diagram of telephone set with neat sketch. Write the telephone call procedure with necessary sketch.  
(or)
18. Describe the functions of cellular telephone system with roaming and handoff schemes.
19. Explain the functions of Cordless telephone system with necessary block diagram.  
(or)
20. Describe the following:
  - (a) Citizen's band radio
  - (b) Digital cellular system