ANNA UNIVERSITY – 2006

B.E/B.TECH IV SEMESTER DEGREE EXAMINATION

TELECOMMUNICATION SYSTEM

(INFORMATION TECHNOLOGY)

TIME-3HOUR
MARK-100

ANSWER ALL QUESTIONS

PART A (10 * 2 = 20)

1. Draw clearly block diagram of superheterodyne receiver and give its frequencies.

2. What is gain of an antenna? Give its relationship.

3. Explain frequency reuse concept in mobile communication and give the relation for frequency reuse distance.

4. What are the advantages of digital cellular systems?

5. Enumerate the various subsystems in satellite.

6. Enumerate the different types of orbits in satellite communication.

7. What are signal bandwidth limitations?

8. Enumerate the different types of fibers.

9. What are ISDN and DSL in telephone system?

10. Give the parameters for CT2 cordless telecommunication system.

PART B (5 * 16 = 80)

11. (i) Explain, with diagrams, the amplitude-modulated transmitter operation.

(ii) Derive, from basic principles, the expression for received power in free space propagation.

12. (a) (i) Explain, with block diagrams, the working of AMPS with relevant specifications.

(ii) Explain digital cellular system with relevant specifications.

Or

(b) Explain, with relevant specifications, the services and features of cordless telephone (CT2) system.

13. (a) (i) State and explain Kepler's laws.

(ii) Discuss the importance of satellite transponder with relevant diagram.

Or

(b) (i) Explain the salient features of DBS TV satellite communication.

(ii) Explain, with diagrams, the Cassefrainion antenna used in earth station complex. Discuss its parameters.

14. (a) (i) Discuss the features of attenuation and dispersion of glass fibers.

(ii) Draw clearly fiber optic communication system and discuss its constituent blocks.

Or

(b) (i) A fiber of core dia of 5 m and operates at 1.3 m light source. Find the number of modes support it. The numerical aperture is 0.35.

(ii) Draw clearly the fiber optic data link and explain.

15. (a) Explain Facsimile system. Discuss the types of scanning.

Or

(b) Explain, in detail, paging system with relevant diagrams.