

**ANNA UNIVERSITY - 2007**  
**B.E/B.TECH DEGREE EXAMINATION**  
**COMMUNICATION ENGINEERING**  
**(ELECTRICAL & ELECTRONICS ENGINEERING)**

**TIME-3HOUR**  
**MARK-100**

**ANSWER ALL QUESTIONS**

**PART A (10 X 2 = 20 )**

1. State the primary mode of microwave propagation? What factors determine the range of it?
2. Define (a) Passive Satellite (b) Active Satellite.
3. Define Nyquist sampling rate.
4. What is the operation of a Compander?
5. What is meant by coherent reception in data transmission?
6. How the probability of error can be reduced in data transmission?
7. What are the advantages of fiber optics over wire systems?
8. Define characteristic impedance of a cable.
9. What are the video and audio IF carrier frequencies?
10. Define (a) luminance signal (b) chrominance signal.

**PART B (5 X 16 = 80 )**

11. Give a detailed comparison of (i) data transmission systems (ii) digital modulation systems.
12. (a) Explain the direct method of FM generation.  
Or  
(b) Draw the block diagram of an AM superheterodyne radio receiver and explain the function of each block.
13. (a) Explain in detail :  
(i) Quantization  
(ii) Companding with regard to pulse code modulation scheme.  
Or  
(b) (i) Describe the slope overload error and the ways to minimize it.  
(ii) Compare the various pulse modulation schemes.
14. (a) Explain in detail about TDM.  
Or  
(b) Explain the essential components of an optical communication system.
15. (a) Sketch the block diagram of a monochrome television receiver and explain.  
Or  
(b) (i) Explain interlaced scanning.  
(ii) Sketch the electron gun in a typical CRT. Explain briefly how the electron beam is focussed.