ROLL NO .....

2005 ANDHRA UNIVERSITY

II B.TECH II SEMESTER DEGREE EXAMINATION
B.TECH INFORMATION TECHNOLOGY
DIGITAL COMMUNICATIONS

TIME : 3 HOUR
MARK : 70

FIRST QUESTION IS COMPULSORY

ANSWER ANY FOUR FROM THE REMAINING QUESTIONS

ALL QUESTIONS CARRY EQUAL MARKS

ANSWER ALL PARTS OF ANY QUESTION AT ONE PLACE

1. (a) What is ATM?

(b) Give the expressions for Channel Capacity

(c) Explain scrambling Technique

(d) Give Transmission characteristics of Terrestrial microwaves.

(e) Explain the concept of multiplexing?

(f) State sampling theorem.

(g) What are different layers in OSI model?

2.(a) What are the key elements of Data Communication Model?

(b) What are the key tasks that must be performed in a Data Communication System?

(c) Explain the Architecture of TCP/IP reference model.

3. (a) Explain Different transmission impairments.

(b) Given a channel with an intended capacity of 20 MBPS. The bandwidth of channel is 3 MHz what signal to noise ratio (SNR) is required in order to achieve this capacity.

4. (a) Explain the transmission characteristics of twisted pairs.
(b) Compare coaxial cable with Optic fibers.

(c) What is the thermal noise of a channel with a bandwidth of 10 kHz?Carrying 1000watts of power operating at a 50o C?

5 (a) Explain different modulation techniques for transmitting digital data into Analog signals.

(b) Explain in detail Delta Modulation.

6.(a) Explain Asynchronous & Synchronous transmissions in detail.

(b) What is FCS?

(c) For P = 110011 and M= 11100011 find the CRC.

7. Explain Statistical time Division multiplexing in detail.

8. (a) Explain ISDN Architecture

(b) Differentiate between Narrowband ISDN and Broadband ISDN.