

Total No. of Questions : 12]

SEAT No. :

P2944

[4958]-182

[Total No. of Pages : 3

**T.E.(Computer Engineering)
DATA COMMUNICATIONS
(2008 Course)(Semester-I) (310242)**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answer Q1, or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10, Q11 or Q12.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*

SECTION-I

- Q1)** a) Explain difference in Bit rate and baud rate. [4]
b) Write short note on modem. [6]
c) Explain digital communication system. [8]

OR

- Q2)** a) Compare Analog and digital modulation. [4]
b) Explain with block diagram PCM Encoder and decoder. [6]
c) What is quantization noise? Discuss the factors in which it depends & techniques used for reducing its effects. [8]
- Q3)** a) Explain the terms PWM, PPM and PAM. [6]
b) List and explain all types of ARQ System. [10]

OR

- Q4)** a) Write short notes on PSTN. [8]
b) With help of block diagram, explain BFSK transmitter and receiver. [8]

P.T.O.

- Q5)** a) List and explain Wireless transmission media. [8]
- b) Explain Frequency Division Multiplexing(FDM) and Time Division Multiplexing(TDM) along with their suitable applications. [8]

OR

- Q6)** a) Explain piggybacking with advantages and disadvantages. [6]
- b) Explain persistent and non-persistent CDMA. [6]
- c) Write the short notes on stop-and-wait protocol [4]

SECTION-II

- Q7)** a) Explain the layers in OSI- ISO reference model. What is the difference between TCP/IP model and OSI model. [8]
- b) Write short note on. [6]
- i) video on Demand
- ii) Code efficiency
- iii) Hamming distance
- c) Explain entropy and information rate [4]

OR

- Q8)** a) Explain Bluetooth protocol architecture. [8]
- b) Explain wireless LAN and virtual LAN. [4]
- c) Differentiate between optical fiber and coaxial fiber. [6]
- Q9)** a) Explain different switching techniques. [8]
- b) Describe different network topologies. [8]

OR

- Q10)** a) Explain sliding window protocol with neat diagram. [8]
- b) Explain and list various levels of hierarchy used by telephone companies. [8]

Q11) Write short note on:(any two).

[16]

- a) ALOHA
- b) CSMA
- c) Frame Relay Technology

OR

Q12)a) Explain the following with respect to ATM.

[8]

- i) Constant Bit rate
 - ii) Variable Bit rate.
 - iii) Available Bit rate
 - iv) Unspecified Bit rate
- b) What is ARQ? Explain selective repeat mechanism with suitable example.

[8]

