Total No. of Questions : 12]

SEAT No. :

P1664

[Total No. of Pages :2

[5058] - 152
T.E. (Computer Engg.)
DATA COMMUNICATION
(2008 Pattern) (Semester-I) (310242)

Time : 3 Hours] *[Max. Marks :100]*

Instructions to the candidates:

1) ***Solve Q1 or 2Q, 3Q or 4Q, 5Q or Q6 from section I and Q7 or Q8, Q9 or Q10, Q11 orQ12 from section II.***
2) ***Draw diagram wherever necessary.***
3) ***Solve section on separate answersheet.***
4) ***Assume suitable data, wherever necessary.***

SECTION -I

Q1) a) Explain QAM analog modulation technique with constellation diagram. **[6]**

b) Explain statistical TDM with diagram. What are issues in TDM? **[6]**

c) Explain simplified communication system and mention various parts of communication system. **[6]**

OR

Q2) a) Explain FSK, PSK and ASK technique. **[10]**

b) Explain WDM and CDMA multiplexing technique. **[8]**

Q3) a) Explain with block diagram PCM Encoder and decoder. **[8]**

b) Describe adaptive quantization with forward estimation and backward estimation. **[8]**

OR

Q4) a) Explain effect of Gaussian noise on digital transmission. **[8]**

b) What is uniform quantization? What is the drawback in it.How to overcome this drawback? **[8]**

Q5) a) Write short note on linear block codes. **[8]**

b) Describe Shannon's theorem on channel capacity. Explain with suitable example. **[8]**

OR

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Q6) a) What is ARQ? Explain in short go-back-n and selective repeat methods. **[8]**

b) Write short note on CRC. Explain why error detection and correction is required. **[8]**

SECTION - II

Q7) a) Explain OSI Model of communication. **[6]**

b) Explain with suitable diagram PSTN. **[6]**

c) Describe in brief SONET. **[6]**

OR

Q8) a) Write short note on (any 2) **[6]**

i) Ethernet

ii) Wireless LAN

iii) Virtual LAN

b) Explain with suitable example network topologies? **[6]**

c) Explain ATM in detail. **[6]**

Q9) a) Explain Twisted Pair. Coaxial and Fiber-optic cables. **[8]**

b) Differentiate between Packet switching and circuit switching. **[8]**

OR

Q10)a) Explain the following hardware components: **[8]**

i) Repeaters,

ii) hubs,

iii) NICs,

iv) Bridges and Switches

b) Explain wireless transmission media with suitable example. **[8]**

Q11)a) Explain various Data link layer design issues. **[8]**

b) Explain stop and wait protocol. **[4]**

c) Write a short note on CSMA. **[4]**

OR

Q12)a) Explain Sliding Window protocol with suitable diagram **[8]**

b) Explain ALOHA. **[8]**

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