P2448

SEAT No. :

[Total No. of Pages : 3

[5153]-82

T.E. (Computer Engg.)
DATA COMMUNICATIONS
(2008 Pattern) (Semester-I) (310242)

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

Instructions to the candidates:

1) *Answer three questions from section I and three question from section II.*
2) *Answer to the two sections should be written in separate books.*
3) *Figures to the right indicate full marks.*
4) *Neat diagrams must be drawn wherever necessary.*

SECTION-I

Q1) a) With help of block diagram, explain BFSK transmitter and receiver. **[6]**

b) Explain WDM and CDMA multiplexing techniques. **[6]**

c) Compare Analog and digital modulation. **[6]**

OR

Q2) a) Explain in detail digital communication system. **[8]**

b) Explain difference in Bit rate and baud rate. **[4]**

c) Write short note on modem. **[6]**

Q3) a) Explain sampling theorem. **[8]**

b) Explain with diagram operation of DPCM transmitter. **[8]**

OR

Q4) a) Explain line coding polar schemes. **[8]**

b) Explain pulse code modulation technique. **[8]**

Q5) a) Explain following terms related to codes: **[10]**

     i) Code word.

     ii) Code rate.

     iii) Hamming weight of code word.

     iv) Code efficiency.

     v) Hamming distance.

  b) Explain why error detection and correction required. **[6]**

<div align="center">OR</div>

Q6) a) Describe Shannon's theorem on channel capacity. Explain with suitable example. **[8]**

  b) Explain the Huffman encoding algorithm. **[8]**

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SECTION-II

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Q7) a) Write short note on control signaling and signaling function with respect to circuit switching networks. **[8]**

  b) Explain in detail seven layers ISO-OSI reference model. **[10]**

<div align="center">OR</div>

Q8) a) Explain architecture of Bluetooth protocol. **[8]**

  b) Comment on the TCP/IP protocol stack? How it is different than OSI seven layer model. **[10]**

Q9) a) Comparison of optical fiber with coaxial and twisted pair cable. **[8]**

  b) Define bridges and explain with neat diagram different types of bridges. **[8]**

<div align="center">OR</div>

Q10) a) Explain advantages and dis-advantages of packet switching. **[8]**

  b) Explain classification of wireless media in detail. **[8]**

*Q11)*a) Describe the frame format of PPP with diagram. **[8]**

b) What is static and dynamic channel allocation? **[8]**

OR

*Q12)*a) Write short note on one bit siding window protocol. **[8]**

b) List and write the use of different network connection devise. **[8]**

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