R09

Code No: C3804, C6101, C0603, C7004, C6501

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH I SEMESTER EXAMINATIONS APRIL/MAY-2012
ADVANCED DATA COMMUNICATIONS
(COMMON TO DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS, COMMUNICATION SYSTEMS, DIGITAL SYSTEMS AND COMPUTER ELECTRONICS, ELECTRONICS AND COMMUNICATION ENGINEERING, WIRELESS AND MOBILE COMMUNICATIONS)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks

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1.a) With suitable sketches, explain the operation of 8-PSK modulator and demodulator. Compare bandwidth requirements of 8-PSK and 16 PSK systems.
b) Explain squaring loop, costas loop and remodulator loop carrier recovery circuits.

2.a) Discuss and compare various LAN topologies.
b) Explain Electrical, Mechanical and functional characteristics of EIA-232 interface standard.

3.a) Encode the following message sequence using Hamming code.
11011001
b) Determine the block check sequence (BCS) for the following data and CRC polynomials
Data $G(x) = x^7 + x^5 + x^4 + x^2 + x^1 + x^0$
CRC $P(x) = x^5 + x^4 + x^1 + x^0$

4.a) Explain and compare stop & wait and sliding window protocols.
b) Describe HDLC frame format.

5.a) Explain the operation of a single stage cross bar switch. What are its limitations? How are they eliminated in multistage switches?
b) Compare circuit switching and virtual circuit switching techniques.

6.a) Describe the operation of Time division switches.
b) Give the features of datagram switching.

7.a) Explain CSMA/CD protocol and compare with ALOHA protocol.
b) Describe the features of CDMA technique.

8. Write a brief note on
a) Time division multiplexing
b) Asynchronous data link protocols.

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