

2011

4th SEMESTER EXAMINATION

MCA

COMPUTER NETWORK

PAPER—CS/MCA/2404

Full Marks : 70

Time : 3 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Q. No. 1 and any four from the rest.

1. Answer any five questions : 5×2
- (a) What do you mean by distributed processing?
 - (b) Define topology with example.
 - (c) What is 'Internetworks'?
 - (d) Define the two types of line configuration.
 - (e) Define interleaving in TDM.
 - (f) What do you mean by bit padding?
 - (g) Find the net id and host id of the following address :

123.67.12.1

2. (a) What do you mean by TCP/IP? Explain TCP/IP reference model with a detailed diagram. 2+6
- (b) What is packet switching? Write the advantages & disadvantages of packet switched network. How does packet switching differ from message switching? 2+3+2
3. (a) If the data link layer can detect errors between hops, why do we need another checking mechanism at the transport layer? 3
- (b) What do you mean by multiplexing? Discuss WDM in details. Explain, if there is any difference between WDM & FDM. 2+5+3
- (c) Both a signal and a medium has bandwidths of 1000 Hz. Can the signal always faithfully pass through the medium? 2
4. (a) What is ARQ? Explain the normal operation mode of stop-and-wait ARQ. What is piggy backing? 2+5+3
- (b) What is HDLC? Describe the two modes of transmission of HDLC. 2+3
5. (a) Explain the working mechanism of CRC Generator. 5
- (b) Construct the Hamming code for the following data.
10101101 7
- (c) Define bit stuffing with suitable example. 3
6. (a) What do you mean by adaptive routing? Explain link state routing with suitable diagram. 2+6
- (b) What are the factors that effect congestion? Describe the token bucket algorithm for congestion control. 2+5
8. Write short note : (any three) 3x5
- (a) TCP ; (b) CSMA ; (c) Fiber-Optic Cable ; (d) Ethernet ;
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