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Fifth Semester B.E. Degree Examination, December 2012
Computer Networks – I

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

1.
 - a. What is protocol? Define the key elements of protocols? (05 Marks)
 - b. Define network topology, explain ring topology with advantages and disadvantages. (05 Marks)
 - c. Explain the different levels of addressing used in an internet with a suitable example for each level of addressing in TCP /IP? (10 Marks)

2.
 - a. Explain the following :
 - i) Bandwidth
 - ii) Through put
 - iii) Transmission time
 - iv) Latency
 - v) Jitter. (05 Marks)
 - b. Explain with the block diagram, the causes for transmission impairments. (09 Marks)
 - c. Explain with neat waveform any two polar line coding schemes. (06 Marks)

3.
 - a. What is multiplexing? Explain with a neat diagram FDM. (08 Marks)
 - b. Explain how time – division – multiplexing differs from FDM, with a neat diagram? (04 Marks)
 - c. What is switching? Differentiate circuit switch network with packet – switched network. (08 Marks)

4.
 - a. What is internet checksum? List the steps undertaken by sender and receiver for error detection. (06 Marks)
 - b. Explain with an example of block coding method for error detection and correction? (10 Marks)
 - c. What is the Hamming distance? Find the minimum Hamming distance of the coding scheme shown in the table. (04 Marks)

Data word		Code word				
0	0	0	0	0	0	0
0	1	0	1	0	1	1
1	0	1	0	1	0	1
1	1	1	1	1	1	0

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

PART – B

- 5 a. Calculate the time takes to send 2 million bits of data in a system that uses stop and wait protocols, if the distance between sender and receiver is 2000 kms. Assume packet size is 400 bits and propagation speed is 2×10^8 m. No data or control frame is lost. (10 Marks)
- b. Explain the frame format and transitional phases of Point – to – point protocols. (10 Marks)
- 6 a. Explain why collision is an issue in a random access protocol but not in controlled access or channelizing protocols? (04 Marks)
- b. Explain any two popular control access methods, with a neat diagram. (08 Marks)
- c. Explain 802.3 MAC frame format. (08 Marks)
- 7 a. Explain the services of IEEE 802.11 standards. (04 Marks)
- b. Write a short notes on : (10 Marks)
- i) Blue tooth
 - ii) Cellular telephone.
- c. Explain the five standard of IMT – 2000 radio – interface of 3G systems? (06 Marks)
- 8 a. Explain briefly the advantages of IPV6. (06 Marks)
- b. Find out the netid and hostid of the following IP address? (08 Marks)
- i) 111.64.2.6
 - ii) 131.57.9.3
 - iii) 207.64.52.11
 - iv) 225.34.2.1.
- c. Write short notes on network address translation (NAT). (06 Marks)
