Reg No.										

MANIPAL INSTITUTE OF TECHNOLOGY
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FIFTH SEMESTER B.E. (CSE) DEGREE MAKE UP EXAMINATION
JANUARY– 2007 Computer Communication and Networks
(CSE 309)
(REVISED CREDIT SYSTEM)
12-01-2007

TIME : 3 HOURS MAX.MARKS : 50

Instruction to Candidates

- Answer **any five** full questions
- Missing data can be suitably assumed

1A. Explain the classification of computer networks based on scale. -05.

1B. What are the different types of noises that occur in a transmission medium? How do they affect the information being transmitted? -05.

2A. A transmission system has an input power level of 4 mW. The first element is a transmission line with a 12dB loss, the second element is an amplifier with a 35dB gain and the third element is a transmission line with a 10dB loss. Calculate the output power. -03.

2B. What is the channel capacity for a teleprinter channel with a 300Hz bandwidth and a signal to noise ratio of 3dB where the noise is white thermal noise? -03.

2C.Describe satellite transmission. -04.

3A. Explain the different scrambling techniques. Give an example for each. -07.

3B. An asynchronous transmission scheme uses 7 data bits, an odd parity bit, and a single stop bit. What percentage of clock inaccuracy can be tolerated at the receiver with respect to the framing error? Assume that the bit samples are taken at the middle of the clock period. Also assume

that at the beginning of the start bit, the clock and incoming bits are in phase. -03.

4A. Along with neat diagrams derive an expression for link utilization of sliding window flow control. -05.

4B. Illustrate and explain Go-Back-N ARQ technique. -05.

5A. With neat diagrams explain frequency division multiplexing. -05.

5B. Derive an expression for the throughput of pure ALOHA. Show that maximum throughput occurs at an offered load of 0.5. -05.

6A. What are the properties of routing algorithms? -02.

6B. With an example, explain reverse path forwarding in broadcast routing algorithm. -05.

6C. Explain the hop-by-hop choke packet congestion control algorithm. -03.

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