Reg. No. : | | | | | | | | | | |

K 6366

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Elective

Power Electronics and Drives

PE 1622 — COMPUTER COMMUNICATION AND NETWORKS

(Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the objectives of computer communication network?
2. What are the principles that were applied to arrive at the seven layers of OSI model?
3. Distinguish between slotted and pure ALOHA.
4. What is capture effect?
5. Compare data gram subnet and virtual circuit subnet?
6. What are transport layer quality of service parameters?
7. Derive the expression

$$E(n) = \sum_{n=0}^{\infty} np_n \qquad = \rho/1 - \rho$$

8. What is the expression for average time delay due to buffering in a message switched store and forward network.
9. List the ASN. 1 primitive types and constructors.
10. What is called Net-Effecting?

PART B — (5 × 16 = 80 marks)

11. (a) Draw the network architecture based on the OSI model and explain the layers.

Or

(b) Explain the characteristics of some common transmission media.

12. (a) Enumerate the functions carried out by the data link layer.

Or

(b) Explain the operation of token passing ring and CSMA /CD LAN.

13. (a) With examples explain Optimal routing and Flow based routing.

Or

(b) What are the five strategies for controlling congestion? Explain briefly.

14. (a) For M/G/1, queue, derive the expression for average time delay of messages arriving at the buffer.

Or

(b) What are the methods to tackle capacity assignment problem? Derive the expression for capacity and time delay in each strategy.

15. (a) Explain the implementation of remote procedure call.

Or

(b) Explain any one example of the application layer in detail.
