

**BACHELOR IN COMPUTER  
APPLICATIONS****Term-End Examination****December, 2007****CS-68 : COMPUTER NETWORKS***Time : 3 hours**Maximum Marks : 75*

**Note :** Question number 1 is **compulsory**. Answer any **three** questions from the rest.

1. (a) What do you mean by Data Communication ? Write the characteristics on which effectiveness of data communication system depends. 5
- (b) Define point to point network and explain any three topologies for point to point subnet. 4
- (c) Explain different categories of network that is LAN, WAN and MAN. Also write one protocol name used for each type of network. 9
- (d) Define different sublayers of Data Link Layer. Also write the services provided by Data Link Layer. 5
- (e) Name different LAN architectures. 2
- (f) Explain Stop and Wait protocol with the help of a suitable diagram. 5

2. (a) Differentiate between Hub and Switch. 5
- (b) Explain the function of a modem. What are the modulation techniques used in modems ? 5
- (c) Explain five different traffic control mechanisms in networks. 5
3. (a) Enlist the differences between Virtual Circuit and Datagram Subnet. 6
- (b) Discuss the need of multiplexing. Also explain upward and downward multiplexing with diagram. 5
- (c) Why does congestion occur in data networks ? 4
4. (a) Explain the process how ATM protocol works. 5
- (b) Write the advantages of small and fixed size cells. 4
- (c) Define Data rate and Signal rate. An analog signal carries 4 bits per signal. If 1000 signals elements are sent per sec, find the bit rate. 6
5. (a) Explain Ethernet protocol. 5
- (b) Explain the characteristics of Broadband Coaxial Cable. 5
- (c) Explain the advantages of ISDN. 5