

Exam. Code : 105705

Subject Code : 1473

**B.Sc. Information Technology 5<sup>th</sup> Semester  
COMPUTER NETWORKS****Paper—I**

Time Allowed—3 Hours] [Maximum Marks—100

**Note** :— Attempt any *five* questions. All questions carry equal marks.

1. Discuss the TCP/IP reference model and compare it with OSI reference model. 20
2. (a) Define Network Topology. Describe commonly used network topologies.  
(b) What is the purpose of using routers, bridges and gateways ? 14,6
3. (a) What is switching ? Discuss various types of switching.  
(b) Write briefly on Modem. 14,6
4. Give the comparative overview of various wired transmission media used for networks with respect to their physical characteristics, speed and performance. 20
5. (a) Write briefly on the various design issues of data link layer.  
(b) Explain any one sliding window protocol. 12,8

6. (a) What are the various error detection and correction codes used at Data Link Layer ?
- (b) Write briefly on one IEEE 802 Standard for LAN/MAN. 12,8
7. (a) Describe in detail how network layer support internetworking.
- (b) Why network security is important ? What are the various ways to implement network security ? 10,10
8. Define routing. Discuss the desirable characteristics of a routing algorithm. Discuss in detail any one routing algorithm. 20