

**PARUL UNIVERSITY**  
**FACULTY OF IT & COMPUTER SCIENCE**  
**MCA., Summer 2017-18 Examination**

**Semester: 4**  
**Subject Code: 05201253**  
**Subject Name: Data Communications and Networking**

**Date: 24-05-2018**  
**Time: 10:30AM to 01:00PM**  
**Total Marks: 60**

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Answer the followings.****A. Write short notes.****(05)**

1. List down components of data communication.
2. What is physical layer?
3. Give the names of Wireless transmission.
4. List down types of network names.
5. How many layers are in the TCP/IP model?

**B. Multiple choice type questions/ Give the sentence true or false.****(10)**

1. A network that needs human beings to manually route signals is called....  
 A) Fiber Optic Network      B) Bus Network  
 C) T-switched network      D) Ring network
2. Which of the following is the logical topology?  
 A) Bus                          B) Tree  
 C) Star                          D) Both A and B
3. The standard suit of protocols used by the Internet, Intranets, extranets and some other networks.  
 A) TCP/IP                      B) Protocol  
 C) Open system      D) Internet work processor
4. The .....layer of OSI model can use the trailer of the frame for error detection.  
 A) Physical                      B) Data link  
 C) Transport                      D) Presentation
5. How many layers does OSI Reference Model has?  
 A)4    B) 5    C) 6    D) 7
6. Which layers of the OSI model are host-to- host layers?  
 A) Transport, Session, Persentation, Application  
 B) Network, Transport, Session, Presentation  
 C) Datalink, Network, Transport, Session  
 D) Physical, Datalink, Network, Transport
7. What is the minimum header size of an IP packet?  
 A) 16 bytes      B) 10 bytes      C) 20 bytes      D) 32 bytes
8. Routing tables of a router keeps track of  
 A) MAC Address Assignments  
 B) Port Assignments to network devices  
 C) Distribute IP address to network devices  
 D) Routes to use for forwarding data to its destination
9. What is the size of Host bits in Class B of IP address?  
 A) 04    B) 08    C) 16    D) 32
10. What is the meaning of Bandwidth in Network?  
 A) Transmission capacity of a communication channels  
 B) Connected Computers in the Network  
 C) Class of IP used in Network  
 D) None of Above

- Q.2 Answer the followings.** (15)
1. What is Distance Vector Routing ? (02)
  2. Give the names of the forms of phase modulation shift keying. (02)
  3. What is Frequency Modulation? (02)
  4. Explain Data Link Layer Design Issues. (03)
  5. Explain Congestion control algorithms. (03)
  6. What is IP Addresses? Explain. (03)
- Q.3 Answer the following. (Any three)** (15)
1. List Down names of Performance Issues and explain anyone.
  2. Explain Hierarchical Routing .
  3. Write short note on Time Division Multiplexing.
  4. Explain the concept of CDMA.
- Q.4 Answer the following.**
- A.** State and explain the characteristics of data communication system. (05)
- B.** Write short note on HTTP. (10)
- OR**
- B.** Explain the OSI model for networking in brief. How does it differ from TCP/IP model? (10)