

PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
BCA/IMCA Winter 2019–20 Examination

Semester: 3**Subject Code: 05101202****Subject Name: Data Communication and Networks****Date: 28/11/2019****Time: 2:00pm to 4:30pm****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. Answer / Define the following in short.****(05)**

1. Classify Computer Networks based on Scale.
 1. PAN
 2. LAN
 3. MAN
 4. WAN
2. List out Guided Transmission Media
 1. Twisted Pair
 2. Coaxial Cable
 3. Fiber Optics
3. List any 5 Unguided Transmission Media.
 1. Infrared
 2. Wi-Fi
 3. Li-Fi
 4. Radio
 5. Microwave
 6. Satellite
4. List any 4 applications of Smart Home.
5. Differentiate between Client and Server.

B. Multiple choice type questions/ Give the sentence true or false. (Each of 01 marks)**(10)**

1. To deliver a message to the correct application program running on a host, the _____ address must be consulted
 - a) IP
 - b) MAC
 - c) Port
 - d) None of the mentioned
2. Electronic mail uses this Application layer protocol
 - a) SMTP
 - b) HTTP
 - c) FTP
 - d) SIP
3. This is one of the architecture paradigm
 - a) Peer to peer
 - b) Client-server
 - c) HTTP
 - d) Both a and b
4. This is not a application layer protocol
 - a) HTTP
 - b) SMTP
 - c) FTP
 - d) TCP
5. An interface for twisted pair Ethernet must have a _____ connector, and must generate signals according to the _____ specification.
 - a) BNC- t base 10\
 - b) RJ 45- t base 10
 - c) BNC-t base 5
 - d) RJ 45-t base 2

6. When an application----- data, it makes a copy of the data available to all other computers on the network?
a)Broadcastingb)Multicasting
c)Unicastingd)None of the given
7. In -----, network occupies larger areas like cities & countries.
a)LANb)WAN
c) MANd)None of the given
8. The Fast Ethernet hardware operates at a rate of -----
a) 10 Mbpsb)100 Mbps
c)1000 Mbpsd)None of the given
9. A network uses a -----arranges for computers to be connected in a closed loop.
a)Star Topologyb)Ring Topology
c)Bus Topologyd)None of the given
10. The -----term refers to the general concept of a small block of data.
a)Packetsb)Data
c)Framd)None of given

Q.2 Answer the followings. (3 Marks Questions.) (Any Five) (15)

- 1 Write differences between OSI and TCP/IP Model
- 2 Explain services offered by Physical layer
- 3 Differentiate LAN Vs WAN
- 4 Write a short note on Transmission Technology
- 5 Give the differences between client-server and peer to peer model.
- 6 Define Transmission Technology and explain Broadcasting in brief.

Q.3 Answer the following. (5 Marks Questions)(Any three) (15)

1. Write a short note on SMTP System
2. Discuss Class A and C IP Addressing.
- 3 What do you mean by DNS? How it works?
4. How does TCP manage flow control? Discuss the role played by window advertisements.

Q.4 Answer the following in detail.

- A. Give Differences Connection oriented and Connection-Less protocol (05)
- B.(1) Explain Simple Parity check Error - Error Detection Method with suitable example. (05)
- B.(2) Suppose that a message 0111 0110 1101 0101 1110 1011 is transmitted using Internet Checksum (05)
(4- bit word). What is the value of the checksum?

OR

- B.(1) Discuss Checksum in detail with suitable example. (05)
- B.(2) Discuss Ring Topology in detail. (05)