

PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
BCA/ IMCA Summer 2018 – 19 Examination

Semester: 3**Subject Code: 05101202/05301202****Subject Name: Data Communication and Computer Networks****Date: 30/04/2019****Time: 10:30am to 1:00pm****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. What are subnets?
2. Expand OSI and UDP.
3. What is an internet?
4. Give an example of IPv6 and IPv4 addresses
5. Give one difference between Coaxial and fiber optic cables

B. Do as Directed.**(10)**

1. How long MAC address is in bits?
[A] 24
[B] 32
[C] 48
[D] 128
2. FDDI is an example of a BUS network (T/F).
3. An Ethernet is most widely used WAN network for data transmission(T/F)
4. A World Wide Web is the example of a distributed system. (T/F)
5. Dijkstra's algorithm is used in which routing algorithm to construct shortest path tree?
[A]Distance Vector
[B]Link State
[C]PathVector
[D]None of the above
6. A notebook computer used in a hotel room – is an application of Mobile and Wireless. (T/F)
7. ICMP is primarily used for
[A] Error and diagnostic functions
[B] Addressing
[C] Forwarding
[D] None of the above
8. How long PORT address is in bits?
[A] 16
[B] 32
[C] 48
[D] 128
9. In TCP/IP protocol suite, which one of following is NOT part of the IP header?
[A] Fragment Offset
[B] Source IP address
[C] Destination IP address
[D] Destination port number
10. One of the headers field in an IP datagram is the Time to Live (TTL) field. Which of the following statements best explains need for this field?
[A] It can be used to prioritize packets.
[B] It can be used to reduce delays.
[C] It can be used to optimize throughput.
[D]It can be used to prevent packet looping.

- Q.2 Answer the followings. (Any five) (15)**
1. What is subnet mask? Write default subnet mask for class A, class B, class C.
 2. List and explain in brief the protocols for Application Layer.
 3. Compare the fiber optics and copper wire communication mediums.
 4. Explain functions of Data link layer.
 5. Give short description for flow control protocol in data link layer.
 6. Enlist switching techniques and explain packet switching.
- Q.3 Answer the following. (Any three) (15)**
1. Explain TCP transport protocol.
 2. What is error? Explain CRC error detection method with example.
 3. List and explain all the different types of transmission media.
 4. Write short note on DNS.
- Q.4 Answer the following.**
- A.** What is Firewall? Explain SMTP in details. (05)
- B.** What is multiplexing? Explain TDM, FDM in detail along with diagram. (10)
- OR**
- B.** Explain OSI reference model with diagram. (10)