

**BACHELOR OF COMPUTER APPLICATION**  
**Third Semester**  
**COMPUTER NETWORKS**  
**(BCA - 13)**

**Duration: 3Hrs.**

**Full Marks: 70**

Part-A (Objective) =20  
Part-B (Descriptive) =50

**(PART-B: Descriptive)**

**Duration: 2 hrs. 40 mins.**

**Marks: 50**

**Answer any *five* of the following questions**

1. Write about the OSI reference model. (10)
2. What is TCP/IP model? Explain the functions, protocol and services of each layer. (3+7=10)
3. What is IP addressing? How it is classified? Define UDP. (3+5+2=10)
4. What is firewall? Explain the different types of firewall. How does a firewall works? (3+4+3=10)
5. Discuss various types of networks topologies in computer network. Also discuss various advantages and disadvantages of each topology. (5+5=10)
6. Define Circuit switching. What are advantages and disadvantages we get from circuit switching? (4+6=10)
7. Describe Ethernet? Define Token ring and its use in networking. (5+5=10)
8. Write short notes on: (2.5×4=10)
  - a) LAN
  - b) Broadband technology
  - c) Coaxial cable
  - d) Packet switching

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**Duration: 20 minutes**

**Marks – 20**

**(PART A - Objective Type)**

**I. Choose the correct answer:**

**1×20=20**

1. Two devices are in network if
  - a) A process in one device is able to exchange information with a process in another device.
  - b) A process is running on both devices.
  - c) PIDs of the processes running of different devices are same.
  - d) None of the mentioned.
2. In computer network nodes are
  - a) The computer that originates the data
  - b) The computer that routes the data
  - c) The computer that terminates the data
  - d) All of the mentioned
3. Communication channel is shared by all the machines on the network in
  - a) Broadcast network
  - b) Unicast network
  - c) Multicast network
  - d) None of the mentioned
4. Bluetooth is an example of
  - a) Personal area network
  - b) Local area network
  - c) Virtual private network
  - d) None of the mentioned
5. A \_\_\_\_\_ is a device that forwards packets between networks by processing the routing information included in the packet.
  - a) Bridge
  - b) Firewall
  - c) Router
  - d) All of the mentioned
6. A list of protocols used by a system, one protocol per layer, is called
  - a) Protocol architecture
  - b) Protocol stack
  - c) Protocol suit
  - d) None of the mentioned
7. Network congestion occurs
  - a) In case of traffic overloading
  - b) When a system terminates
  - c) When connection between two nodes terminates
  - d) None of the mentioned
8. Communication between a computer and a keyboard involves \_\_\_\_\_ transmission.
  - a) Automatic
  - b) Half-duplex
  - c) Full-duplex
  - d) Simplex

