

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA– SEMESTER –V EXAMINATION –SUMMER-2019**

**Subject Code:2650010**

**Date: 10-05-2019**

**Subject Name: Advanced Networking**

**Time:10.30 am to 1.00 pm**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Answer the followings for IPv4 Addressing scheme. **07**
1. Network address
  2. Directed broadcast address
  3. Limited broadcast address
  4. Subnet broadcast address
  5. All 0's source address
  6. Multicast addresses
  7. Loopback address
- (b)** Write the answer in brief.
1. In which technique a single IPv4 prefix is to be used across two networks? Explain it briefly. **04**
  2. How ARP message is encapsulated in physical network frame? **03**
- Q.2 (a)** Write the answer in brief.
1. Compare error reporting and error correction. **04**
  2. How an IP datagram is encapsulated in physical network frame? **03**
- (b)** Illustrate the forwarding algorithm using a forwarding table while entries are being examined or changed. **07**
- OR**
- (b)** What is sliding window? How it can obtain substantially higher throughput than a simple positive acknowledgement protocol. **07**
- Q.3 (a)** Write the answer in brief.
1. What is port number? Give an example of various well-known port numbers. **04**
  2. How piggybacking reduces the network traffic? **03**
- (b)** How can an organization that uses the global Internet to connect its sites guarantee that all communication is kept private? Explain it. **07**
- OR**
- Q.3 (a)** Write the answer in brief.
1. What is passive and active opens? **04**
  2. Define term endpoints. **03**
- (b)** Draw and explain state diagram of DHCP address acquisition. **07**
- Q.4 (a)** Write the answer in brief.
1. What is firewall? Explain stateful firewall with 5-tuple fields. **04**
  2. Discuss various aspects of Information Security. **03**
- (b)** Name and explain two protocols developed by IETF to provide QoS as a part of the IntServ. **07**

**OR**

- Q.4 (a)** Write the answer in brief.
1. Explain MIME extensions for non-ASCII data. **04**
  2. Names the basic protocols that H.323 uses for IP telephony. **03**
- (b)** What is MIB? Specify various MIB categories and MIB variables. **07**
- Q.5 (a)** Write the answer in brief.
1. What is address resolution problem? **04**
  2. Discuss the CODE values for an ICMP destination unreachable message format. **03**
- (b)** What is OpenFlow technology? Explain fields and actions of OpenFlow. **07**
- OR**
- Q.5 (a)** Write the answer in brief.
1. Specify two broad approaches used to provide per-flow control in a communication system. **04**
  2. Explain IPv4 datagram format. **03**
- (b)** Explain ZigBee IPv6 protocol stack in detail. **07**

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