

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-V • EXAMINATION – SUMMER • 2015

Subject Code: 650010

Date: 11-05-2015

Subject Name: Advanced Networking (AN)

Time: 02:30 pm to 05:00 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 following: (Each of 1 Mark) 07

- 1 What is the use of protocol field in IPv4 Header?
- 2 How many bits are occupied by an IPv4 Address?
- 3 What is the use of private IPv4 address?
- 4 Why is an ARP request broadcasted across a LAN?
- 5 What is the use of TTL field in IPv4 header?
- 6 Mention any one major drawback of using IPv4 addressing.
- 7 When does fragmentation occur in IP?

(b) Answer the following:

- 1 Explain: a) Loop Back IP address b) Directed Broadcast IP Address 04
- 2 Explain the behavior of a host when it receives an ARP request in a LAN. 03

Q2. Answer the following:

- (a) 1. Explain the reason for using UDP even though it is an unreliable transport layer protocol. Mention its application areas. 04
2. Explain direct delivery and indirect delivery in IPv4 forwarding. 03
- (b) Mention the different scenarios/reasons under which the destination unreachable message in ICMP occurs. 07

OR

- (b) Explain the IPv4 forwarding algorithm, assuming class-full IP addressing. 07

Q3. Answer the following:

- (a) Explain the sender side and receiver side silly window syndrome in detail with solution. 07
- (b) Explain the working a typical VPN in detail. 07

OR

Q3. Answer the following:

- (a) Explain the working of NAT (Port Mapped NAT) in detail. 07
- (b) Briefly explain different DHCP messages related to lease acquisition and release in detail. 07

Q4. Answer the following:

- (a) Explain the structure of URL in detail. 07
- (b) Write a short note on: IPv6. 07

OR

- Q4. Answer the following:
- (a) Mention and briefly explain the characteristics/features of the HTTP protocol. 07
 - (b) Write a short note on: Packet Filtering Firewalls. 07
- Q5. Answer the following:
- (a) Explain different resource record types used in DNS system. 07
 - (b) Explain the control connection and data connection establishment in FTP. 07

OR

- Q5. Answer the following:
- (a) Write a short note on: MIME 07
 - (b) Write a short note on: TFTP 07
