CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. (IT) Examination

May 2013

IT308 COMPUTER NETWORKING-II

Date: 02.05.2013, Thursday **Time: 10:00 a.m. To 01:00 p.m.** **Maximum Marks: 70**

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1 (a) Explain the hidden station and exposed station problem in wireless LAN. **[05]**

(b) Define the following term: **[02]**

1) SONET 2) Virtual Path

Q - 2 (a) Explain the connection-oriented service of packet switching at network layer. **[06]**

(b) Draw and explain the architecture of IEEE 802.11. **[04]**

(c) Explain the PPP protocol in Point-to-Point WAN. **[04]**

OR

Q - 2 (a) List and explain the different network layer issues. **[06]**

(b) Explain the network layer services provided at each router in detail. **[04]**

(c) Explain the advantages of frame relay over X.25 protocol in switched WAN. **[04]**

Q - 3 (a) Justify the following statements with reason: **[06]**

1) The request and reply message can be used to bind a physical address to an IP address in a SVC situation.
2) The inverse request and inverse reply message can be used to build the server's mapping table.

(b) Consider the following information: **[04]**

Original timestamp: 50 Receive timestamp:60

Transmit timestamp:61 Return timestamp:67

What is the round-trip time? What is the difference between sender clock and receiver clock?

(c) What is the need of proxy ARP? How it works? **[04]**

OR

Q - 3 (a) Draw and explain in detail the different types of IGMP message format. **[06]**

(b) Calculate the Checksum in ICMP for following information: **[04]**

8	0	0
1		9
TEST		

(c) What is Logical IP Subnet (LIS) in ATMARP? **[04]**

SECTION – II

Q - 4 (a) **Attempt Following.** **[07]**

1) What is the network address if one of the addresses is 167.199.170.82/27?
2) What is the maximum size of IP header?
3) Using 7-bit sequence numbers, what is the maximum size of sender and receiver Windows for Go-back-N?
4) Show the original (unabbreviated) form of following IPv6 address:
   0 : 0 : FFFF : :
5) What is pulling in transport layer?
6) Define socket address.
7) What is loop back address?

Q - 5 (a) Draw and explain connection oriented service of transport layer. **[06]**

(b) Differentiate following: **[04]**

1) Classful and Classless IPv4 addressing
2) TCP and UDP

(c) What are the different types of delivery for IP packet? Explain each one. A host with IP address 137.23.56.23/16 sends a packet to a host with IP address 137.23.67.9/16. Which type of delivery? **[04]**

OR

Q - 5 (a) An organization is granted the block 130.34.12.64/26. The organization needs to have four sub networks. What are the subnet addresses and the range of addresses for each subnet? **[06]**

(b) Explain stop and wait protocol of transport layer. **[04]**

(c) Draw an IP header format. **[04]**

Q - 6 (a) List out the transition strategies of IPv4 to IPv6 and explain each one in detail. **[06]**

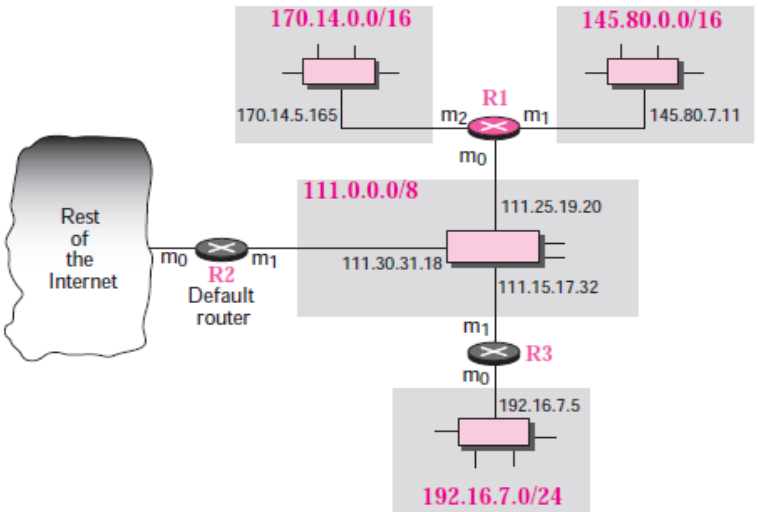
(b) What is fragmentation in IPv4? List out the fields related to fragmentation? Explain any one in brief. **[04]**

(c) Explain different types of links in OSPF. **[04]**

OR

Q - 6 (a) List out TCP timers and explain each one in detail. **[06]**

(b) Figure shown on next page is an imaginary part of the Internet. Show the routing tables for router R1. Router R1 receives a packet with destination address 192.16.7.14. Show how the packet is forwarded. **[04]**



(c) Explain multicasting and multiple unicasting. **[04]**

****