NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI
MASTER OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
FALL SEMESTER EXAMINATION -2007

Dated: 12-12-2007

INTERNET TECHNIQUES & THEIR APPLICATIONS
(CT-517)

Time Allowed: 2.5 hrs

Max Marks: 60

Instructions: **Attempt all questions.**

Question 1: **(10)**

a) Identify some major modern benefits of Internet and differentiate between the Presentation Layer vs Session Layer?

b) Identify some basic features of IP and mention the advantages and disadvantages of connectionless IP internetworking.

c) How does DHCP and BOOTP handle multiple subnets?

Question 2: **(10)**

a) What is the use of Proxy ARP? Does a router propagate an Ethernet broadcast?

b) Give the name of the fields they are deleted in an IPv6, but they exist in IPv4?

c) Differentiate between internal and external DTDs?

Question 3: **(10)**

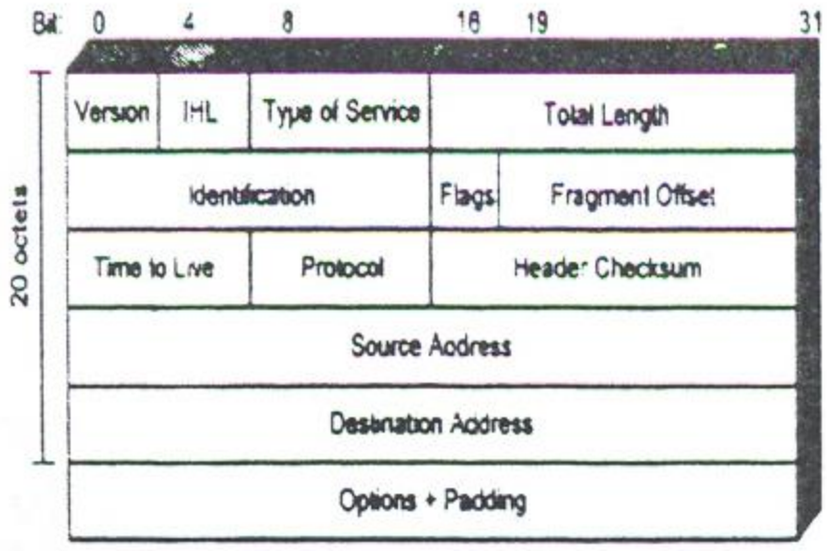
a) What is the function of the Next Header field in the IPv6 protocol? Identify the disadvantages of IPV4 and discuss how they are solved in IPV6?

b) Explain how XML is used for structuring data? Mention some similarities of XML and HTML?

Question 4: **(12)**

a) Identify the rules of XML? When an XML document called a well formed document? Differentiate between #pcdata and #cdata?

b) When an IP packet captured in its binary format on the way from its source to destination. Now looking at the starting few bytes of the Packet (shown below), provide following information about the packet.

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01000101000000000000000111111111
00000000001111110010000000000000
00111011000001101111111100000000
11000001000000010001000100100001
00001010000010100000101000000101
```

i. What is the total length of the packet
ii. What is the length of the header
iii. Is the packet allowed to be fragmented
iv. If it is fragmented then is it the last Packet
v. What is the source IP address

c) Define the message type defined by ICMP? How the QOS and security achieved in IPV6?

Question 5:

a) Define the ICMP, why it is use and explain the following:

- Source Quench
- Echo or Echo Reply
- Destination Unreachable

b) Give comments on the following: (**any three**)

i) XML is verbose by design

ii) XML is new, but not that new

iii) XML is modular

iv) XML is license-free, platform-independent and well-supported

Question 6:

a) Why are DTD important? Give some examples of DTDs?

b) XML Parsers are required to support three types of encodings, what are? this important?