B4.5-R3: INTERNET TECHNOLOGIES AND TOOLS

NOTE:

> 1. **Answer question 1 and any FOUR from questions 2 to 8.**
> 2. **Parts of the same question should be answered together and in the same sequence.**

Time: 3 Hours **Total Marks: 100**

1.
a) What is Media Gateway Control Protocol (MGCP)? What are the components of MGCP?
b) An Internet service provider (ISP) is a company that offers its customer access to the Internet. What types of connection can it provide to users?
c) What is length of IPv6 address and how is it represented? What are the address types supported by IPv6?
d) TCP/IP is based on a four-layer reference model for communication over internet. List and describe each layer and also write protocols working at each layer.
e) By drawing suitable diagram explain VPN. What are its benefits?
f) What is an URL? Write different examples of URL. What is the difference between absolute and relative URL?
g) What are the types of virus? How does virus infect the computer system? How viruses spread from one computer to another computer?

(7x4)

2.
a) What is an IP address and what is a MAC address?
b) What is Internet security? Explain a protocol that defines architecture to provide various security services for traffic at the IP layer.
c) What are the various communication media deployed in networks? Discuss twisted pair and coaxial cable in detail.

(6+6+6)

3.
a) How does ARP resolve an IP address to an Ethernet MAC address?
b) What is DNS? Discuss its design principles.
c) What are the different ways by which one can access the web?

(6+6+6)

4.
a) What is VRML?
b) What are the two main functions of Dynamic Host Configuration Protocol? What are the three different DHCP address allocation mechanism?
c) What is multicasting? How is it different from Unicasting? What is Reverse Path Forwarding? Explain.
d) Discuss in brief the main functions of data link layer.

(2+4+6+6)

5.
a) Differentiate between SNMP and SMTP protocols.
b) What is windows script? What is the relationship between a Windows script (*.wsf) file and Extensible Markup Language (XML) code? Why do you program in Perl?
c) What is Multiprotocol Label Switching Protocol? Discuss. Why is it often referred to as a "Layer 2.5" protocol?

(6+6+6)

6.
a) What is an Applet? How do they differ from Applications?
b) Describe how a message can be authenticated using Public key encryption to ensure that the message was really sent by a specific person or organization.
c) Is TCP reliable? Is UDP reliable? Discuss.

(6+6+6)

7.
a) What is a digital certificate? What is the most important authentication framework to make them effective?
b) What do you understand by the term MPEG? Compare software based MPEG and hardware based MPEG.
c) What are SGML and HTML? How is dynamic HTML different from HTML?

(6+6+6)

8. Write Short notes on (**any three**):
a) Firewall
b) Routing Protocols-Static, RIP, IGRP, OSPF, BGP
c) VLAN
d) Integrated Services Digital Network (ISDN)

(6+6+6)