B4.5-R4: INTERNET TECHNOLOGY AND WEB SERVICES

NOTE:

1.	**Answer question 1 and any FOUR from questions 2 to 7.**
2.	**Parts of the same question should be answered together and in the same sequence.**

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

1.
a)   Discuss IPv6 briefly. Give its advantages over IPv4.
b)   Explain DNS functionality in Internet.
c)   Differentiate between ARP and RARP.
d)   What are viruses? How are they different from WORMS?
e)   State some limitations of SMTP which are resolved by usage of MIME.
f)   Explain how digital signature ensures authentication both in terms of source and data integrity.
g)   IP is called a best effort delivery protocol, why?

(7x4)

2.
a)   What is CGI (Common Gateway Interface)? How is it different from an HTML document? Name some languages in which CGI script can be written. Which is the most popular language for CGI scripting?
b)   Describe TCP/IP architectural model? Discuss how each layer (in TCP/IP protocol stack) adds (or removes) header information to data travelling away from (or toward) the application layer to (or from) physical layer.
c)   What is the World Wide Web? Give its brief history. What are the features that makes the Web unique? What does the Web empower a user to do?

(6+6+6)

3.
a)   Explain the difference among the four ways by which a packet can be transmitted into a network namely Unicast, Anycast, Broadcast and Multicast. Clearly mention which one of them can be used in LAN or in WAN or in both. Also discuss what makes Multicast different from Broadcast.
b)   Discuss the purpose of FTP (File Transfer Protocol)? How is anonymous FTP different from FTP?
c)   Discuss the two common scripting methods namely Client-Side and Server-Side Scripting used in the development of web pages that are more interactive. Also explain the difference between VBScript and JavaScript?

(6+6+6)

4.
a)   Is firewall a hardware device or a software program? Discuss. What does a firewall do? Also highlight the limitations of a firewall (i.e. what a firewall cannot do)?
b)   What is the need of a Markup language? What is a XML? Discuss how
      i)   XML separates data from HTML?
      ii)   XML simplifies data sharing?
      iii)   XML simplifies platform changes?
      iv)   XML is used to create new Internet Languages?
c)   Describe the key features that enable Java technology to provide a secure programming environment?
d)   What is the main function of WSDL and how it is normally used?

(5+5+5+3)

5.
a) What are the two most commonly used graphic formats on the web? Discuss their advantages and disadvantages.
b) Discuss H.323 standard. What are its four kind of components, which, when networked together, provide the point-to-point and point-to-multipoint multimedia-communication services?
c) What is RTCP? What are its main functions?
d) What do you mean by the term Authentication? What is the difference between Single factor authentication and Two factor authentication?

(5+5+5+3)

6.
a) What are Active Server Pages? What can you do with Active Server Pages? What do Active Server Pages look like?
b) Write in brief about SQL? What are the main functions that can be performed using SQL? If you have to build a web site that shows some data from a database, what will you need along with SQL?
c) What is Linux? What do you understand by terms kernel and shell? Name some of the commercially available Linux variants.
d) What is Secret Key Encryption? How is it different from Public Key Encryption?

(5+5+5+3)

7. Write short notes on **any three** of the followings:
a) Open Source Initiatives
b) Virtual Reality
c) Client Server Architecture
d) Simple Object Access Protocol (SOAP)

(3x6)