MCA

PCS 5008

Fifth Semester Examination – 2008

INTERNET TECHNOLOGY

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*

The figures in the right-hand margin indicate marks.

1. Answer the following questions :   2×10

   (a) Describe the difference between circuit switched data network and packet switched data network.

   (b) Do routers have IP address ? If so, how many ?

   (c) What is subnetting ?

P.T.O.

(d) Differentiate between authentication and authorization.

(e) Name the three components of a web browser.

(f) What is a proxy server and how is it related to HTTP ?

(g) Differentiate between connection less and connection oriented service.

(h) Which OSI layer is responsible for providing end-to-end communications with reliable service ?

(i) How a public key is different from secret key ?

(j) What is the function of gateway in Internet ?

2. (a) In a packet switched data network, explain the meaning of

(i) Datagram,

(ii) Virtual Circuit and

(iii) Logical channel.   5

(b) Explain the operation of distance vector routing protocol with suitable diagrams.

5

3. Discuss the Internet addressing mechanism. How DNS is useful ?   10

4. (a) Explain the meaning of Virtual terminal, Network virtual terminal and Pseudo terminal vis-à-vis the TELNET protocol.

5

(b) Show how encryption can be used to obtain message authentication ?   5

5. What is an access network ? Discuss some important access network technologies. Also state the physical media used in such technologies.   10

6. (a) Produce a sketch showing the fields that make up the header of a TCP segment and explain the function of each field.   5

(b) What is the function of transport layer ?

5

7. (a) Identify the range of IP address spanned by Class A, Class B and Class C. 5

   (b) A host in an organization has an IP address 150.32.64.34 and a subnet mask 255.255.240.0. What is the address of this subnet ? What is the range of IP addresses that a host can have on this subnet ? 5

8. Write brief notes on any *two* : 5×2

   (a) Internet telephony

   (b) Firewall

   (c) Virtual reality

   (d) Intranet

   (e) Search Engines.