

(Set-Q<sub>1</sub>)**MCA-5th****Internet and Web Technology**

Full Marks : 70

Time : 3 hours

Answer any six questions, including  
Q.No.1 which is compulsory

*The figures in the right-hand margin indicate marks*

1. Answer *all* the questions : 2 × 10
- (a) Which IP address is called as “Loop back address”?
- (b) What is meant by “tunnelling”?
- (c) Discuss the concept of subnet addressing.
- (d) Differentiate between connection oriented and connectionless delivery systems.
- (e) What is meant by Port Number?

(f) What is the purpose of Proxy Server? How does it work?

(g) What is Domain Name System (DNS)?

(h) What is the use of Reverse ARP?

(i) In OSI network architecture, the routing is performed by which layer?

(j) What do you mean by “Subnet Masks”?

2. (a) Why is IP called ‘Best effort delivery’ protocol? Draw IP datagram and explain the fragmentation offset field. 5

(b) What is Multicast Addressing? Describe the working principle of transport gateway. 5

3. (a) Explain how IP and mask are encoded in BGP message format. 5

(b) Write the basic principle of Internet Control Message Protocol. What are its basic functions? 5

4. (a) In case a Subnet mask : 255.255.255.0 is used in a LAN, how many bits are used as network address, and in host address ? What are the maximum numbers of hosts that can be accommodated in such a case ? 5
- (b) What is the difference between Static and Dynamic Routing ? Why is subnetting done in a typical LAN ? 5
5. (a) How do two machines establish communication via TCP ? Explain the Handshaking process in detail. 5
- (b) What is firewall ? Discuss each types of firewall briefly. 5
6. (a) The TCP/IP standard defines how many layers ? Briefly explain each of them. 5
- (b) What are the different data units (input and output) at different layers of TCP/IP protocol suite ? 5

7. What is Broadband Communication ? How is it different from Dial up Connections ? 10
8. Write short notes on any two of the following : 5 + 5
- (i) TCP timeout
- (ii) RARP Packet format
- (iii) ICMP
- (iv) TELNET.

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