FULL MARKS: 70
TIME – 3 HRS

Answer any six questions including Question 1 which is compulsory

1. Answer all the following questions   2x10
   (a) How can you verify a digital signature?
   (b) What is multicast socket?
   (c) How forwarding is different than routing?
   (d) What is server side scripting?
   (e) What is the meaning of "in" in the URL "http://www.goidirectory.nic.in"?
   (f) How FTP is different from HTTP?
   (g) What is the utility of datagram?
   (h) Explain each term in the phrase 10 Base 5.
   (i) The address 11011101 11011111 11111110 11011110 belongs to which class?
   (j) Differentiate between socket and port?

2. (a) Explain the TCP/IP protocol suite and how it is different from OSI model.   5
   (b) Explain datagrams and virtual circuits with respect to packet switching network.   5

3. (a) How remote logging works in terminal networking?   5
   (b) Explain RSA algorithm. Find the ciphertext of VSS.   5

4. (a) Describe the important functions of network layer. What do you mean by subnetting?   5
   (b) Explain about three way handshaking procedure for establishing TCP connection   5

5. (a) Give a detailed description of token ring protocol. Why would this protocol be   5
       inefficient if a LAN had a huge perimeter?
   (b) Discuss the Internet addressing mechanism. How DNS is useful?   5

6. (a) Explain how reliable delivery of entire message is done in transport layer.   5
   (b) Give a detailed description of public key cryptosystems.   5

7. (a) Why there is an upper limit on modem speed? Explain voice grade modem and cable   5
       modem.
   (b) Explain the working procedure of frame relay.   5

8. Write short notes on   10
   a) Repeater   b) Hub
   c) Bridge   d) Network throughput.

Sub:- Internet & Web Technology

Time: 3 hours　　　　　　　　　　　　　　　　　　　　　　　　　　Full Mark:- 70

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) Discuss the concept of subnet addressing.

(b) What is limited broadcast? How does it differ from directed broadcast?

(c) Define Root Server.

(d) Differentiate between connection oriented and connectionless delivery systems?

(e) What is bit implementation of SSL?

(f) What is "routing with partial information"?

(g) What is Domain Name System?

(h) Explain what you mean by anonymous FTP?

(i) "TCP/IP provides a connectionless and reliable transport service" Explain.

(j) Give the format of an Internet datagram.

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) Explain how Gateway to Gateway Protocol (GGP) truly follow Bellman-Ford routing protocol.　(5)

4. (a) A host with IP address 137.23.56.23/16 sends a packet to a host with IP address 137.23.67.9/16. Is the delivery direct or indirect? Assume no subnetting.　　　　　(5)

(b) When does the DHCP server need to check the static database for address mapping? What are the types of information can a client receive from a DHCP server when it is booted for the first time in network?　　　　　　　　　　　　　　　　　　　　　　　　　(5)

5. (a) The ATM standard defines how many layers? Briefly explain each of them.　(5)

(b) What is firewall? Discuss each types of firewall briefly.　　　　　　　　(5)

6. (a) In class B subnet, the IP address of one of the hosts and the mask are given below:

IP Address : 125.134.112.66

Mask: 255.255.224.0

What is the first address (network address) and the last address (broadcast address) in this subnet?　(5)

(b) What is multicast addressing? Describe the working principle of transport gateway?　(5)

7. What is DHCP? How many different types of messages are there? Explain DHCP message format. Explain the least renewal process. What are interior routing and exterior routing?　(1+1+3+3+2)

8. What is Broadband Communication? How is it different from Dial up Connections? Differentiate between High speed dedicated WAN services and switched WAN services.　(3+3+4)