Fifth Semester B. E. (Comp. Engg.) (C.B.S.) Examination

TCP / IP AND INTERNET

Time : Three Hours]　　　　　　　　　[Max. Marks : 80

　　N.　B.　: (1) All questions carrry marks as indicated.
　　　　　　　(2) Abswer any **Six** questions from paper out of **Twelve**.
　　　　　　　(3) Due credit will be given to neatness and a adequate dimensions.
　　　　　　　(4) Assume suitable data wherever necessary.
　　　　　　　(5) Illustrate your answers wherever necessary with the help of neat sketches.

1.　(a) What is RFC? Draw and explain the different maturity levels of RFC.　　5

　　(b) Explain four levels of addresses and use of it in TCP/IP protocol suite.　　5

　　(c) What are the functions of data link layer ?　3

OR

2.　(a) What do you mean by Internet standards ? Explain in detail.　　5

　　(b) What are the supporting protocols present in network layer in TCP/IP model.　　4

　　(c) Compare wired LANs and wireless LANs.　4

3. (a) An address in a block is given as 200.11.8.45. Find the number of addresses in the block the first address and last address. 4

   (b) What is subnetting and supernetting ? Explain with the help of diagram. 5

   (c) Differentiate between IP_{V4} and IP_{V6}. 4

OR

4. (a) Given the IP address 180.25.21.172 and subnet mask 255.255.192.0

   (i) What is subnet address ?

   (ii) How many no.of hosts attached ? 3

   (b) In a block of address, the IP address and one of the host is 192. 168.1.0 0/24 and no.of requirement of subnet works is 4. What is first address and last address ? 3

   (c) What are the applications of the'Ping" and Traceroute" utilities ? 3

   (d) Draw and explain the fields in ARP and RARP packets. 4

5. (a) An ICMP message has arrived with the header (in hexadecimal) 03 03 10 20 00 00 00 00. What is the type of the message ? What is the code ? What is the purpose of the message ? 4

   (b) Explain error messages in $ICMP_{V6}$ in detail. 5

   (c) Explain Link state routing algorithm in detail. 5

OR

6. (a) What is BGP ? Explain its types of message in detail. 6

   (b) Explain the source-quench error reporting message in $ICMP_{V4}$ in detail. 4

   (c) Write a short note on RIP. 4

7. (a) Draw and explain agent advertisement message for mobile IP. 6

   (b) Write short notes on :—

   (i) DVMRP

   (ii) MOSPF 7

OR

8. (a) What is Mobile IP ? Explain agent registration process in detail. 6

   (b) Write short notes on :—

   (i) IGMP

   (ii) CBT 7

9. (a) Draw and explain state transition diagram for TCP. 7

   (b) Why do we need TCP and UDP as two separate protocols at transport layer ? 3

   (c) TCP is a connection oriented protocol which uses the services of IP, which is connection less protocol ? Justify your answer. 4

OR

10. (a) Draw and explain BOOTP packet format.   7

    (b) What is Socket ? Explain the serverside responsibilities in socket programming., with help of its functions.   7

11. (a) What is DHCP ? Explain state transition diagram of DHCP client.   5

    (b) Why do we need RRQs or WRQ message in TFTP but not in FTP ?   4

    (c) Write short note on :—

    POP 3   4

OR

12. (a) Draw and explain the fields in MIME header.

   4

    (b) Write short notes on (any three) :—

      (i) DNS.

      (ii) Congestion control.

      (iii) SSH.

      (iv) Telnet.   9