B.E. (Computer Engineering) Fifth Semester (C.B.S.)

TCP / IP and Internet

P. Pages : 2 **TKN/KS/16/7450**

Time : Three Hours * 0 9 5 2 * Max. Marks : 80

Notes :
1. All questions carry marks as indicted.
2. Solve Questions 1 OR Question No. 2.
3. Solve Questions 3 OR Question No. 4.
4. Solve Questions 5 OR Question No. 6.
5. Solve Questions 7 OR Question No. 8.
6. Solve Questions 9 OR Question No. 10.
7. Solve Questions 11 OR Question No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Illustrate your answers wherever necessary with the help of neat sketches.
10. Use of non-programmable calculator is permitted.

1. a) Compare TCP/ IP reference model and OSI reference model in details. **7**

b) Determine First Address, Last Address, number of hosts and no. of networks for following IP Address. **6**
i) 192.168.5.40 ii) 122.155.30.25

OR

2. a) Explain Ethernet Frame format in detail? **6**

b) What is hidden and Exposed station problem in wireless LAN? How they can be overcome? **7**

3. a) An organization is granted a block of addresses with beginning address 14.24.74.0/24. The organization needs to have 3 sub blocks of addresses to use in its three subnet as shown below. **7**
i) One sub block of 120 addresses.
ii) One sub block of 60 addresses.
iii) One sub block of 10 addresses.

b) Explain in brief types of special addresses and their use. **6**

OR

4. a) Draw an ARP packet format and Explain the significance of proxy ARP? **7**

b) What is fragmentation? Why it is necessary? Explain fields related to fragmentation? **6**

5. Explain the working of ICMPv4 protocol. Discuss various ICMPv4 messages in detail. **14**

OR

6. a) What is meant by intra-domain and inter-domain routing. Describe how routing tables are build and updated with RIP (Routing Information Protocol) **8**

b) Describe about Border Gateway Protocol. (BGP). **6**

7. What are the three different phases of mobile host in mobile IP Explain with scenarios. **13**

OR

8. a) Explain inefficiency in mobile IP. **5**

b) Explain MOSPF (Multicast open shortest path first) in detail. **8**

9. a) Explain UDP packet (Datagram) header format. **6**

b) Explain how the connection establishment and termination happen in TCP. **8**

OR

10. a) Explain Flow control mechanism of TCP with neat diagram. **8**

b) What are the special features of UDP? Discuss the message queuing designed in UDP. **6**

11. a) Give communication between POP3 and IMAP4. Describe push pull server concept. **6**

b) Discuss various types of records in DNS. **7**

OR

12. a) Explain DHCP in detail with state transition diagram. **7**

b) Write short note on **6**
i) SMTP ii) MIME

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