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B.E. (Computer Science & Engineering) Seventh Semester (C.B.S.)

Elective - I : TCP / IP

P. Pages : 2 **NRT/KS/19/3573**

Time : Three Hours * 0 2 5 8 * Max. Marks : 80

Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is RFC? Explain Requirements level of on RFC. **7**

b) Explain the relationship of layers and addressing of TCP/IP with diagram. **7**

OR

2. a) What are the different connecting devices available? Explain the function of each in detail. **7**

b) What do you mean by Internet-Standard? Explain in detail. **7**

3. a) Change the following IP address from Binary notation to Hexadecimal notation. **4**
i) 10000010 00001011 00001011 11101111
ii) 11000001 10000011 00011011 11111111
iii) 11010000 00100010 00110110 00001100
iv) 10000001 00001110 00000110 00001000

b) An organization is granted a block address with beginning addresses **9**
14.24.74.01.24, the organization needs to have three subblock of addresses to used in its 3 subnets as given below.
i) One subblock of 120 addresses
ii) One sub-block of 60 addresses
iii) One sub-block of 10 addresses

OR

4. a) Explain the ARP packet format with Diagram. **7**

b) Find the netid and Hostid of following IP addresses. **3**
i) 114.34.2.8
ii) 132.56.8.6
iii) 208.34.54.12

c) Find the class of each address. **3**
i) 14.23.120.8
ii) 252.5.15.11
iii) 193.14.56.22

5. a) List and explain the various packet forwarding techniques used by IP. **7**

b) The contents of an IGMP message in Hexadecimal notation are. **6**
1100 EE FF 00 00 00 00
Answer the following question.
i) What is the type?
ii) What is the checksum?
iii) What is a group Id?

OR

6. a) Explain RIP message format in detail? **6**

b) Explain open shortest path first (OSPF) in details. **7**

7. a) Explain TCP timers in detail. **6**

b) Explain connection establishment process in TCP using three-way handshaking. **7**

OR

8. a) Explain the conjection control mechanism implemented by TCP? **7**

b) Define firm control and Explain how it is implemented in TCP. **6**

9. Write a short note on **any three.** **13**
i) MPLS ii) SBR
iii) ECMP iv) LDP Hello message

OR

10. a) Explain the IP traffic engineering in details. **7**

b) Explain signaling protocol in details. **6**

11. a) Explain the IP security in detail. **7**

b) Compare IPv4 and IPv6. **7**

OR

12. a) Explain auto configuration in IPv6. **7**

b) Explain the concept of: **7**
i) QoS ii) Transition from IPv4 to IPv6

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The best time to plant a tree was 20 years ago. The second best time is now.

~ Chinese Proverb