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

Elective - I : TCP & IP

P. Pages : 2 **NJR/KS/18/4628**

Time : Three Hours * 0 2 5 6 * 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. Due credit will be given to neatness and adequate dimensions.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is RFC? Draw & explain various maturity levels. **7**

b) Draw & explain TCP/IP protocol suite. **7**

OR

2. a) Explain different connecting devices & mention the OSI layer in which device works. **7**

b) Differentiate between 802.3 and wireless lan 802.11. **7**

3. a) An organization is grantal a block of addresses starting with 150.80.0.0/16 ISP wants to distribute these blocks to 1000 customers are as follows. **10**
i) 1st group has 200 medium size business each needs 128 addresses.
ii) The 2nd group has 400 small business each needs 4 addresses.
iii) The third group has 400 households each need 4 addresses.

b) Classify the following IP address **3**
i) 208.34.10.32
ii) 112.12.12.13
iii) 15.54.16.10

OR

4. An organization is grantal a block of addresses with the beginning addresses 14.24.74.0/24 the organization needs to have 3 sub blocks of addresses to use in its three subnets as follows **13**
i) One subblock of 120 addresses
ii) One subblock of 60 addresses
iii) One subblock of 10 addresses
Design subnet & draw subnetwork diagram.

5. a) Explain the IP header format in detail. **6**

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

OR

6. a) An ICMP message has arrived with the header (in hexadecimal) 05 00 11 12 11 0B 03 02 what is the type of the message? **7**
What is the code?
What is the purpose of messages?
What is the value of Last 4 bytes?
What do the last bytes signify.

b) Explain RIP routing protocol in detail. **6**

7. a) Explain the various services provided by TCP. **7**

b) Explain congestion control mechanism of TCP in detail. **7**

OR

8. a) Draw and explain in detail the TCP header format. **7**

b) Explain how flow control and error control is implemented by TCP. **7**

9. a) Explain about LDP hello message. **6**

b) Explain the ECMP routing strategy in TE. **7**

OR

10. Write a short note on **any two.** **13**
i) SBR
ii) MPLS
iii) Future development of T.E.

11. a) Differentiate between IPv4 & IPv6. **6**

b) Write a note on Auto configuration in IPv6. **7**

OR

12. Write short note on **any three.** **13**

i) Transition from IPv4 to IPv6.

ii) IP security.

iii) Compare ICMPv4 and ICMPv6.

iv) RTP.

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

~ Chinese Proverb