Printed Pages: 4 **NMCA - 511**

(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 2012369 Roll No. | | | | | | | | | |

MCA

Regular Theory Examination (Odd Sem-V), 2016-17

COMPUTER NETWORKS

Time : 3 Hours *Max. Marks : 100*

Section - A

1. Attempt all Parts. All parts carry equal marks. Write answer of each part in short. (10×2=20)

a) Why do we need layering in network?

b) What are the criteria used to evaluate the transmission medium?

c) What are the functions of MAC Address?

d) What is exponential back - off time?

e) What is the function of router?

f) What is Best-effort delivery model?

g) How the packet referred in distance vector and link state routing protocol?

h) Find the class of each IP address. Give suitable explanation?

i) 193.14.56.22

ii) 10000000111100001111111100110011

i) What is the difference between Congestion Control and Flow Control?

j) What is the difference between IMAP and POP3?

Section - B

Note : Attempt any 5 questions from this section.

(5×10=50)

2. Write short notes on:

i) Topology

ii) Bridge

iii) Gateway

iv) ISDN

v) Terminal Handling

3. Differentiate between ISO-OSI model and TCP-IP model on the basis of job done by each layer with diagram.

4. How does an IEEE Standard 802.5 LAN operates? Discuss.

5. Explain the concept of CDMA/CS ? Explain the working of code division multiple access?

6. Compare the delay of pure ALOHA to slotted ALOHA at low load?

7. What are deficiencies of IPv4? How IPv6 was modified to overcome these deficiencies?

8. What do you mean by next hop forwarding? Discuss the OSPF and RIP in brief with their limitations?

9. Discuss the design issues of Presentation layer.?

Section - C

Note: Attempt any 2 questions from this section. **(2×15=30)**

10. Solve the following :

i) What is the remainder obtained by dividing x^7+x^5+1 by the generator polynomial x^3+1? and write polynomial for transmitted data. **(7)**

ii) A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is x^3+1 show the actual bit string transmitted. Suppose the third bit from left is inverted during transmission show that this error is detected at receiver's end. **(8)**

11. Draw the diagram of TCP header and explain the use of following:

    i) Source and destination port address **(7)**

    ii) Sequence and acknowledgement numbers **(8)**

12. Write short notes on

    a) DNS **(8)**

    b) Virtual Terminals **(7)**