(Please write your Exam Roll No.)

Exam Roll No. .....

END TERM EXAMINATION

SIXTH SEMESTER [B.TECH./M.TECH.] MAY- JUNE 2016

Paper Code: IT-304 **Subject: Computer Networks**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt any five questions including Q.no1 which is compulsory.

Q1 Give difference between following:- **(5x4=20)**

(a) Classification of classes in Binary notation and Dotted Decimal notation

(b) Functions of transport layer and data link layer

(c) Overlay networks and frame relay networks.

(d) Star and Mesh Topologies

Q2 (a) Compare coaxial cable, FOX, microwave and Infra-'Red with respect to frequency range and application. **(5)**

(b) Draw labeled diagram of virtual circuit Network and describe it's working. **(5)**

Q3 (a) Differentiate between repeater, amplifier, bridge, router, hub, switch and gateway. Clearly identify the position of each of the element in OSI layer protocol. **(5)**

(b) Describe the IPV4 classful addressing scheme. Find the class of the following IP Addresses. **(5)**

(i) 10000000 11110000 11111111 00110011

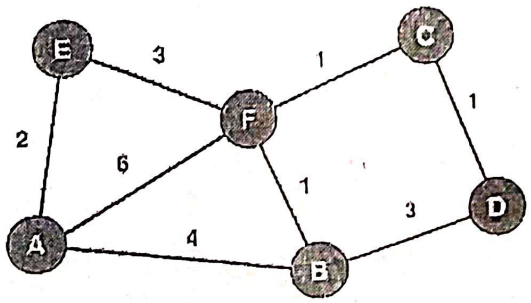
(ii) 117.28.32.16

Q4 (a) Draw ARP and RARP header and explain its working with example. Is the size of the ARP packet is fixed? Explain. **(5)**

(b) Differentiate between Connection less and connection oriented operations. **(5)**

Q5 (a) Differentiate between Link-State routing and distance-Vector routing. **(5)**

(b) For the following graph, create routing table to be maintained at each node in case Link-state routing is followed. Show how the path from A to C would be calculated using link State routing. **(5)**



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Q6 Explain following in brief and discuss their frame format and control field **(Any two)**:- **(5x2=10)**

(a) PPP
(b) HDLC
(c) SONET

Q7 (a) Why sub-netting and super-netting is needed while designing the network and assigning the internet addresses? Explain with example. **(5)**

(b) Discuss the principle of Stop and Wait flow control algorithm. Draw time line diagram and explain how the loss of data frame and loss of acknowledge frame is handled. Also discuss the effect of dealy bandwidth product on link utilization. **(5)**

Q8 (a) What is CSMA/CD? How does it work? Distinguish between 1-persistent and non-persistent CSMA. **(5)**

(b) Briefly explain the different types of packet switching techniques with suitable networks. Write each of its advantages and disadvantages. **(5)**

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