



DHARMSINH DESAI UNIVERSITY, NADIAD

FACULTY OF TECHNOLOGY

B.TECH. SEMESTER V [IT]

SUBJECT: (IT-505) COMPUTER & COMMUNICATION NETWORK

Examination	: Second	Seat No.	: _____
on	Sessional		
Date	: 12/09/2012	Day	: Monday
Time	: 11 to 12:15	Max. Marks	: 36

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
 2. The symbols used carry their usual meanings.
 3. Assume suitable data, if required & mention them clearly.
 4. Draw neat sketches wherever necessary.
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Q. Do as directed.

1 [12]

(a) (I) Which one of the following are true regarding distance vector routing and link state routing : [2]

- (1) Link state sends its complete routing table out all active interfaces on periodic time intervals.
- (2) Distance vector sends its complete routing table out all active interfaces on periodic time intervals.
- (3) Link state sends updates containing the state of its own links to all routers in the internetwork.
- (4) Distance vector sends updates containing the state of its own links to all routers in the internetwork.

(A) 1 ONLY (B) 3 ONLY (C) 2 and 3 only (D) None of the above

(II) Network address prefixed by 1110 is a

Class A address (B) Multicast address (C) Class B address (D) Reserve address

(b) Assuming classfull addressing, find the subnet mask, subnet address, no of subnets and the no of hosts per subnet for 122.45.77.32/20. [2]

(c) List out the main responsibilities of the network layer. [2]

(d) What is NIC? When you move the NIC cards from one PC to another PC, does the MAC address gets transferred as well? Justify. [2]

(e) Why do we need subnet mask? [1]

(f) What protocols fall under the TCP/IP Internet Layer? [1]

(g) What do you mean by reverse path forwarding? [1]

(i) What do you mean by loop back address? Give an example. [1]

Attempt **Any Two** from the following questions. [12]

(a) (I) What is the difference between virtual circuit subnet and datagram subnet? [3]

(II) Explain routing in mobile host [3]

- (b) Given IP address: 201.222.5.0. Need to have 20 subnets with 5 hosts per subnet. [6]
) (I) Find the subnet mask
 (II) Find address of First subnet.
 (III) Find address of second host of first subnet.
 (IV) Find address of last subnet.
 (V) Find address of 4th host of 5th subnet.
 (VI) What is the subnetwork address for a host with IP address 165.100.5.68/28
- (c) (I) What do you mean by multidestination routing? [1]
) (II) What do you mean by selective flooding? [1]
 (III) Differentiate: ARP & RARP. [2]
 (IV) Differentiate: Adaptive and nonadaptive routing algorithm with example. [2]

- Q. (a) Consider a directed graph shown in fig.1 there are multiple shortest path between [6]
 3) vertices S and T. Which one will be reported by Dijkstra's shortest path algorithm? Assume that, in any iteration, the shortest path to vertex v is updated only when strictly shorter path to v is discovered.
- (b) (I) Explain count-to-infinity problem with example [3]
) (II) Explain quality of service with example at network layer [3]

OR

- Q. (a) Consider a directed graph shown in fig.1 there are multiple shortest path between [6]
 3) vertices S and T. Which one will be reported by Bellman Ford's algorithm? Assume that, in any iteration, the shortest path to vertex v is updated only when strictly shorter path to v is discovered.]
- (b) Explain Link state routing protocol in detail. [6]
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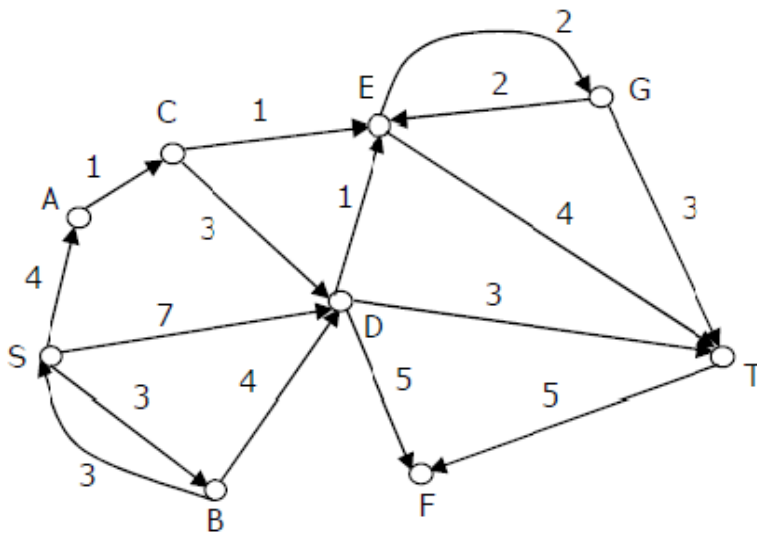


Fig-1