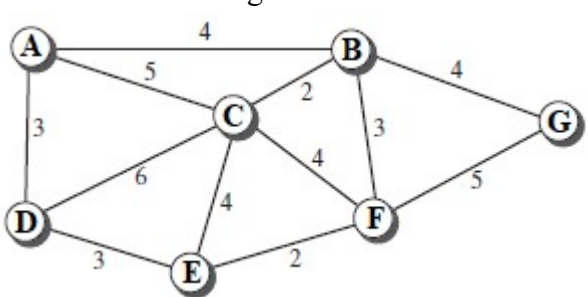


	product? If the system data frames are 1000 bits in length, what is the utilization percentage of the link? (c) Write short notes on (Code Division Multiple Access) CDMA.		
Q 7	Explain distance vector routing algorithm for unicast networks with an example.	10	CO4
Q 8	(a) Write a brief note on following terms : Domain Name System World Wide Web (b) Write a detailed note on E-mail in reference to Application Layer	5+5	CO5
SECTION-C Attempt any one from Q10 and Q11; Q 9 is compulsory			
Q 9	(a) Four data channels (digital), each transmitting at 1 Mbps, use a satellite channel of 1 MHz. Design an appropriate configuration, using FDM. (b) Calculate the propagation time and the transmission time for a 5-M byte message if the bandwidth of the network is 1Mbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4×10^8 m/s. (c) The loss in a cable is usually defined in decibels per kilometer (dB/km). If the signal at the beginning of a cable with -0.3 dB/km has a power of 2 mW, what is the power of the signal at 5 km? (d) Draw the stop and wait protocol flow diagram for the following scenario: (i) The first frame is sent and acknowledged. (ii) The second frame is sent and acknowledged, but the acknowledgment is lost. (iii) The second frame is resent, but it is timed-out. (iv) The second frame is resent and acknowledged.	8+4+4 +4	CO2 CO3
Q 10	(a) Use Dijkstra's algorithm to find the shortest path tree and the forwarding table for node A in the Figure  (b) The following is a dump of a UDP header in hexadecimal format: 0632000DOO ICE217 (i) What is the source port number? (ii) What is the destination port number? (iii) What is the total length of the user datagram? (iv) What is the length of the data? (v) Is the packet directed from a client to a server or vice versa? (vi) What is the client process?	14+6	CO3 CO4

Q 11	<p>(a) An ISP is granted a block of addresses starting with 190.100.0.0/16 (65,536 addresses). The ISP needs to distribute these addresses to three groups of customers as follows: (i) The first group has 64 customers; each needs 256 addresses. (ii) The second group has 128 customers; each needs 128 addresses. (iii) The third group has 128 customers; each needs 64 addresses.</p> <p>Design the sub blocks and find out how many addresses are still available after these allocations.</p> <p>(b) TCP opens a connection using an initial sequence number (ISN) of 14,534. The other party opens the connection with an ISN of 21,732. Show the three TCP segments during the connection establishment.</p> <p>(c) Determine which of the following is an FQDN and which is a PQDN: mil. ; edu. ; xxx.yyy.net; zzz.yyy.xxx.edu</p> <p>(c) Interpret the following sequences of characters (in hexadecimal) received by a TELNET client or server. (i) FFFB 01; (ii) FFFE0I; (iii) FFF4 ; (iv) FFF9</p>	<p>10+4+ 4+2</p>	<p>CO3 CO4</p>
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