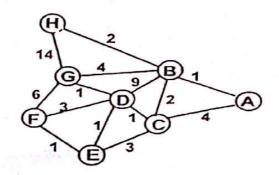
Mid Semester Examination 2017 V. Semester Paper Name: - Computer Network II Time: 1:30 Hours MM: 50 Note: (i) This question paper contains two sections. (ii) Both sections are compulsory. Q1. Fill in the blanks/True-False a) A station in a network forwards incoming packets by placing them on its shortest output queue. The routing algorithm is being used is b) RIP advertisements typically announce the number of hops to various destinations. BGP updates, on the other hand, announce the	Roll No.	Paper Code: TCS 605
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Consider the network shown below with the indicated it.	paradigm?	of thin a connection-oriented or connectionless
algorithm to compute the shortest past from A to all N	Consider the network shows below	[2]
Compute the shoriest hast from A to all by	algorithm to compute the shortest	link costs. Use Dijkstra's shortest nath
Past Holli A to all Network nodes.	o compare the shortest past from A to all No	twork nodes.



Q4.

(5 X 2 = 10 Marks)

- a. Explain the various services provided by the Data Link Layer.
- b. For packet switched network Distance vector routing is used. The vectors below have just been received by router C from routers B, D and E. The measured delays from router C to B, D, and E are 7, 3, and 4 respectively.

Vectors received by router C

ТО	В	D	E
A	5	16	7
В	0	12	6
C	7	- 6	4
D	12	0	9
E	6	9	0
F	2	10	4

What is router C's new routing table? In the table provide next hop and cost to each node information.

c. Consider the polynomial generator, P (G)=1011, and suppose that D has the value 10101101010. What is the value of CRC?

Q5.

$$(5 X 2 = 10 Marks)$$

- a. Suppose two nodes start to transmit at the same time a packet of length L over a broadcast channel of rate R. Denote the propagation delay between the two nodes as d_{prop} . Will there be a collision if $d_{prop} < L/R$? Why or why not?
- b. Why is an ARP query sent within a broadcast frame? Why is an ARP response sent within a frame with a specific destination MAC address? [2+3]
- c. Encode the following bit stream using Manchester and Differential-Manchester. Assume the signal is initially at the positive pol. 101100011101