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COURSE: CSE 323 (Computer Networks)

Dept. of CSE

Final assessment - Fall 2021.

Ans: to the Question no (1) a

☐ Difference between dynamic vs static routing:

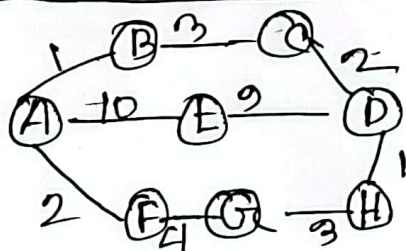
① Path selection: static routing uses a single preconfigured route to send traffic to its destination while dynamic routing provides multiple.

② Ability to update routes: Network Administrators must manually reconfigure static routes in order to adjust routes.

③ Uses of protocols and algorithms: static routing doesn't use protocols or complex routing algorithm. Dynamic uses distance vector protocols.

④ Computation and Bandwidth: static routing requires less compute power and bandwidth and dynamic routing needs more.

Ans to the Q.no-1(b)



	A	B	C	D	E	F	G	H
A	0	1	4	10	10	12	14	11
B	1	0	3	6	6	8	10	7
C	4	3	0	2	2	4	6	5
D	10	6	2	0	2	4	6	5
E	10	6	2	2	0	2	4	3
F	12	8	4	4	2	0	2	1
G	14	10	6	6	4	2	0	3
H	11	7	5	5	3	1	3	0

As per question source is A and destination is D. The shortest path is $A \rightarrow B \rightarrow C \rightarrow D = 6$

Answer to the Q-NO- 3(b)

Q we use hierarchical routing because in hierarchical routing the routers are divided into regions. Each router has complete details about how to route packets to destinations within its own region. In both LS and DV algorithms, every router needs to save some information about other routers. The number of routers will increase as the network size grows. Therefore, with the growing size of routing table router can't handle network traffic as efficiently.

Ans to the Q.no - 3(a)

Network congestion refers to a reduction in quality of service (QoS) that causes packet loss, queuing delay or the blocking of new connections. Typically, network congestion occurs in cases of traffic overloading when a link or network node is handling data.

Ans to the Question NO - 4 (b)

Classful Addressing is an IP address allocation method that allocates IP address according to the five major classes.

Classless Addressing is an IP address that is designed to replace classful addressing. This is the main difference between them.

▣ Usefulness: classless addressing is more practical and useful than classful addressing.

▣ conclusion: In brief, classless addressing can avoid running out of IP address that can occur in classful addressing.