**EAST WEST UNIVERSITY**
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Final Examination, Fall 2021 Semester

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Course:	**CSE 405 Computer Networks, Sec: 3**
Instructor:	**Dr. Anisur Rahman, Associate Professor, Department of CSE**
Full Marks:	**(5*6 marks) = 30 marks**
Time:	**50 min (to write) + 10 min (to upload) = 60 min**

Note: There are FIVE questions, answer ALL of them. Course Outcome (CO), Cognitive Level and Marks of each question are mentioned at the right margin.

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1. Following is a linear subnet comprises of routers A, B, C, D and E; the internal distances between routers are shown in msec. **Show** the initial state considering router **B** is up. **Calculate** 4 more exchanges after router B gone down and additional 4 more exchanges after B gone up following the previous 4 exchanges for the following linear subnet. [CO3, C2 marks: 6]
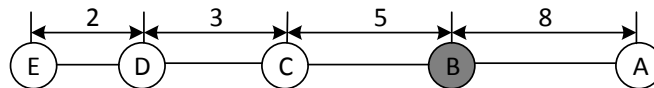
2. Briefly state how short length of a sequence number could be a trouble for link state packets. **Create** a distribution table for the router Q of following subnet for the following conditions: [CO3, C2 marks: 6]

   a. When Q receives P's link-state packet from T with seq. no 118
   b. When Q receives T's link-state packet from R with seq. no 98
   c. When Q receives P's link-state packet from U with seq. no 116
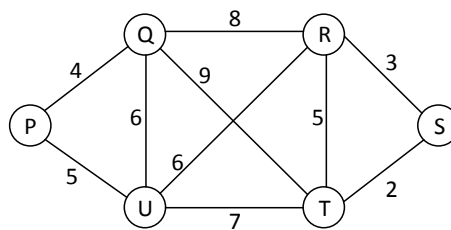
3. **Define** the function of leaky bucket algorithm. Calculate the leak of the bucket if the system needs to be designed to transmit the received data from the PC with a rate of 512MB/sec for 950μsec in 25msec in a network whose data transmission capacity is 64MB/sec. [CO3, C2 marks: 6]

4. **State** the steps of creating a TCP connection with the web server of yahoo from a host which is under the sub domain of sjsu.edu for the structure of DNS. [CO3, C3 marks: 6]
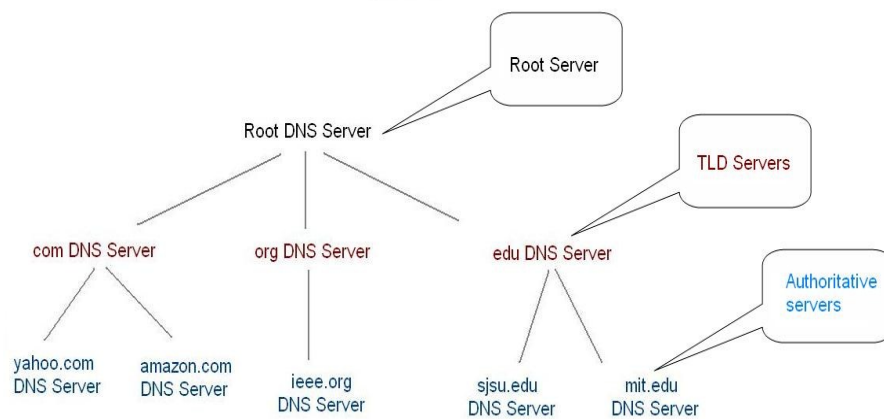
5. Following is the orientation of a typical server farm, where front-end of the server is very busy receiving and replying request. What measures can be taken to improve the performance of the server farm where individual processing nodes capacity will be exploited. [CO3, C3 marks: 6]