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| animatedLOGO | **Assignment No. 03  Semester: Spring 2021**  **CS432: Network Modeling and Simulation** | | **Total Marks: 10**  **Due Date: 27-07-2021** | |
| **Instructions:**  Please read the following instructions carefully before submitting assignment:  You need to use MS word document to prepare and submit the assignment on VU-LMS.  It should be clear that your assignment will not get any credit if:   * The assignment is submitted after due date. * The assignment is not in the required format (doc or docx). * The submitted assignment does not open or file is corrupt. * Assignment is copied (partial or full) from any source (websites, forums, students, etc).   **Objectives:**  To enhance the learning capabilities of the students about:   * Congestion Control * Transport Layer * Little’s Theorem | | | | |
| **Assignment** | |  | | |
| **Question No. 1: (5 marks)**  Assume, in a network, a switch runs for a very long time and it is used to share a link between the 4 concurrent connected connections i.e. W, X, Y and Z whose packets arrive in bursts. The link’s data rate is 1 packet per time slot. The average packet arrival rates of W, X, Y and Z in packets per time slot, are 0.4, 0.1, 0.3 and 0.2 respectively. The average delays observed at the switch are 5, 5, 10 and 10. Calculate the average queue lengths of the 4 queues (W through Z) at the switch.  **Note:** Calculation steps are necessary to be shown.  **Question No 2: (5 marks)**  **For *P* = 1011 and *M* = 1101000, find the CRC (Cyclic Redundancy Check).**  **Note:** Calculation steps are necessary to be shown.  **Best of Luck!** | | | |  |