

**CEP Based Assignment**  
**(Maximum Marks 10)**

**Note: Please do not copy paste. The submitted assignments will be tested for plagiarism. Any two similar assignments, if found, will be assigned zero marks.**

Design a Selective Repeat based sliding window ARQ mechanism using OMNET++ based hardware using wired link in a point to multipoint communication scenario using suitable / custom MAC layer protocol. The number of nodes will be atleast 03. One node will be primary and rest as slave nodes. Use a traffic generator node to send traffic to each node with random destinations. Assign a unique address to each node and use a suitable frame for communication. The design window should have a reasonable window size to avoid congestion. Use a uniform traffic generator.

OR

Design a GO Back N based sliding window ARQ mechanism using ESP32 or Arduino/ESP01 nodes using WiFi in a point to point communication scenario using XMODEM protocol. Use a traffic generator node to send traffic to each node. Assign a unique address to each node and use a custom frame for communication. The design window should have a reasonable window size to avoid congestion. Use a Poisson distribution based traffic generator.