3/4 B.Tech. SIXTH SEMESTER

EM6L2 **COMPUTER NETWORKS LAB** **Credits: 2**

Lab/Practice: 3Period /week **Internal assessment : 25 marks**
Semester end examination: 50 marks

Course Objective

- The Analysis and Design the organization of computer networks, different protocol, and basic skills for setting up routing algorithms.

Learning Outcomes:
At the end of this course the Students will be able to

- To write a program on character stuffing and bit stuffing.
- To implement the operations of different Protocol and CRC.
- To analyze and determine of different Routing algorithm.
- Implement of TCP And UDP Connections

LIST OF PROGRAMS

Week 1:
Implement the data link layer framing methods: character stuffing and bit stuffing.
Week 2:
Write a program to implement stop and wait protocol.
Write a program to implement go-back-n sliding window protocol.

Week 3:
Implement on a data set of characters the three CRC polynomials- CRC12, CRC16.
Week 4:
Implement error detection method using checksum algorithm
Week 5:
Compute shortest route using Dijkstra's algorithm.
Week 6:
Implement distance vector routing algorithm.
Week 7:
Construct a routing table at each node using link state routing algorithm.
Week 8:
Construct broad cast tree for a subnet of hosts.
Week 9:
Implement Client Server application using UDP
Week 10:
Implement socket programming for chat application using TCP

Learning resources

Text Books :
1. Tanenbaum, Computer Networks. 4 ed, PHI/ Pearson Education Reference Books:
2. Behrouz A.Forouzan, Data Communications and Networking 4 ed, TATA McGraw Hill