COMPUTER NETWORKS LAB

III Year B. Tech CSE (AI & ML) I Sem.

Course Code: A2255A0

Course Outcomes:

At the end of the course, students will be able to:

1. Implement various network topologies and protocols of Physical and Data Link Layer.
2. Design various networks and Apply Routing algorithms of Network Layer.
3. Analyze the packets in Transport and Application Layer Protocols.

Programs:

Week1: Study of different types of Network cables and implement the cross-wired cable and straight through cable and configure the Network Topology using Packet Tracer

Week 2: Implement the data link layer framing methods such as character stuffing and bit stuffing.

Week 3: Implementation of hamming code algorithm

Week 4: Implementation of CRC polynomial.

Week 5: Study of Basic Network Configuration Commands and Classification of IP address and Sub netting

Week 6: Connect the computers in Local Area Network and Observing Static and Dynamic Routing using Packet Tracer

Week 7: Implement Dijkstra‟s algorithm to compute the shortest path through a graph.

Week 8: Now obtain Routing table of each node using distance vector routing algorithm

Week 9: Take an example subnet of hosts. Obtain broadcast tree for it.

Week 10: Write a program for congestion control using leaky bucket algorithm.

Week 11: Capture and Analyze the Packets using Wire shark for the following Protocols IPv4, TCP, UDP

Week 12: Capture and Analyze the Packets using Wire shark for the following Protocols HTTP, DNS