III Year –II SEMESTER

T P C
0 3 2

## Computer Networks & Network Programming Lab

## **Objectives:**

- · To teach students practicle orientation of f networking concepts
- · To teach students various forms of IPC through Unix and socket Programming

## PART - A

- I. Implement the data link layer framing methods such as character stuffing and bit stuffing.
- 2. Implement on a data set of characters the three CRC polynomials CRC 12, CRC 16 and CRC CCIP.
- 3. Implement Dijkstra's algorithm to compute the Shortest path thru a graph.
- 4. Take an example subnet graph with weights indicating delay between nodes. Now obtain Routing table art each node using distance vector routing algorithm
- 5. Take an example subnet of hosts. Obtain broadcast tree for it.

## PART – B

- Implement the following forms of IPC.
   a)Pipes b)FIFO
- 2. Implement file transfer using Message Queue form of IPC
- 3. Write a programme to create an integer variable using shared memory concept and increment the variable
- 4. simultaneously by two processes. Use senphores to avoid race conditions
- 5. Design TCP iterative Client and server application to reverse the given input sentence
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- 7. Design TCP client and server application to transfer file
- 8. Design a TCP concurrent server to convert a given text into upper case using multiplexing system call "select"
- 9. Design a TCP concurrent server to echo given set of sentences using poll functions
- 10. Design UDP Client and server application to reverse the given input sentence
- 11. Design UDP Client server to transfer a file
- 12. Design using poll client server application to multiplex TCP and UDP requests for converting a given text into upper case.
- 13. Design a RPC application to add and subtract a given pair of integers