SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

Computer Networks and Operating Systems Lab
(Computer Science and Engineering)

III B.Tech - I Semester						SRIT R20		
Course Code	**Category**	**Hours/Week**			**Credits**	**Maximum Marks**		
R204GA05510	**PCC**	**L**	**T**	**P**	**C**	**CIA**	**SEE**	**Total**
		0	0	3	1.5	40	60	100

Objectives

➢ To familiarize with packet tracer simulator.
➢ To explore on scheduling algorithms, synchronization Problems and file and Memory management Mechanisms.

List of Experiments:

1. Installation and Configure CISCO Packet Tracer Simulator.
2. Implementation of IP Addressing in simple network.
3. Static Routing Configuration.
4. Configuring Routing Information Protocol (RIP).
5. Configuring Open Shortest Path First (OSPF) Protocol.
6. Implement DHCP & DNS.
7. Demonstration of Telnet & SSH.
8. Implement e-mail using SMTP / POP3.
9. Write a program to stimulate following CPU scheduling Algorithms.
    a) FCFS   b) SJF   c) Round Robin   d) Priority.
10. Write a program to stimulate Producer-Consumer Problem using Semaphores.
11. Write a program to stimulate Dining-philosophers problem.
12. Write a Program to stimulate MVT and MFT.
13. Write a Program to stimulate the following contiguous memory allocation techniques.
    a) Worst Fit b) Best Fit   c) First Fit
14. Write a Program to stimulate the following page replacements algorithms.
    a) FIFO   b) LRU   c) OPTIMAL
15. Write a Program to stimulate the following File Organization Techniques.
    a) Single Level Directory b) Second Level Directory
16. Write a Program to stimulate the following file allocation strategies.
    a) Sequential b) Indexed c) Linked
17. Write a Program to stimulate the following Bankers algorithm.
    a) Dead Lock Avoidance   b) Dead Lock Prevention
18. Write a Program to stimulate the following Disk scheduling Algorithms.
    a) FCFS   b) SCAN   c) C-SCAN

Reference Books:

1. "Computer Networking: A Top-Down Approach Featuring the Internet", J.F. Kurose and K.W.Ross, 6th Ed., Pearson Education, 2012.
2. An Introduction to Operating Systems, P.C.P Bhatt, 2nd edition, PHI.
3. Compilers: Principles, Techniques, and Tools (Second Edition) Alfred Aho, Monica Lam, Ravi Sethi, and Jeffrey Ullman. Addison-Wesley.

Course Outcomes:

At the end of the lab, students will be able to

1. Demonstrate implementation of Packet Tracer.
2. Implement the routing protocols.

3. Create IP address for both static and dynamic protocols.
4. Implement the IPC between Processes and Synchronization mechanism.
5. Stimulate the algorithms of CPU Scheduling, Disk Scheduling, Page replacements and Bankers.
6. Stimulate the File and Memory Allocation techniques.