

**Computer Science Laboratory Course-I  
(System Programming)**

Semester: VI

Subject Code: BSP61707

Lectures: 60

**Objectives:**

The syllabus aims in equipping students with,

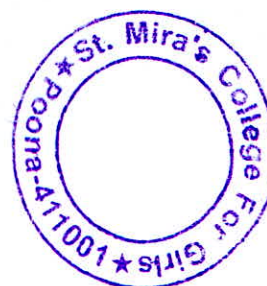
- Designing and implementation of System programs with minimal features to understand their complexity.

Unit 1: Line Editor	12
Unit 2: Simulator	08
Unit 3: Assembler	12
Unit 4: Macro processor	12
Unit 5: DFA driver RE TO NFA	8
Unit 6: Demonstration of Development Utilities . Activity Based on the development utilities for 5 marks.	4

\*Contact hours – 04 hours

**Reference Books:**

1. D.M.Dhamdhere, *Systems Programming and Operating Systems*, Second Revised Edition.[chapter 3,4]
2. Alfred V. Aho, Ravi Sethi, Jeffrey D. Ullman, *Compilers: Principles, Techniques, and Tools*
3. Leland L. Beck, *System Software - An introduction to Systems Programming*, Pearson Education [Chapter: 1] .
4. John R. Levine, Elsevier Moegan Kaufmann, *Linkers and Loaders*. [chapter 6]



**Computer Science Laboratory Course-I  
(Operating System)**

Semester: VI

Subject Code: BSP61707

Lectures: 60

**Objectives:**

The syllabus aims in equipping students with,

- Designing and implementing simulations of operating system level procedures

<b>Unit 1:</b> Toy shell	<b>08</b>
<b>Unit 2:</b> Implementing CPU Scheduling algorithms: FCFS, Shortest Job First(Preemptive &non preemptive), Priority (Preemptive &non preemptive), Round Robin	<b>12</b>
<b>Unit 3:</b> Deadlock detection using Banker's algorithm	<b>08</b>
<b>Unit 4:</b> Page Replacement Algorithms FIFO, Optimal, Least Recently Used, Most Frequently Used.	<b>12</b>
<b>Unit 5:</b> File Allocation methods	<b>08</b>
<b>Unit 6:</b> Demonstration of LEX and YACC Activity Based on the LEX and YACC for 5 marks.	<b>4</b>

\*Contact hours – 04 hours

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