

# GUJARAT UNIVERSITY

K. S. SCHOOL OF BUSINESS MANAGEMENT  
[Five Years' (Full-time) Integrated Degree Course]

## Semester-6 [M.Sc. (CA & IT)]

**Subject Code: - KS\_C\_CC -367**

**Subject Name: - Implementation of System Software  
(Practical on CC-364)**

**Course Credit: - 3**

### **Objective:**

Practical implementation of theory to understand the concepts, structure and mechanisms of system software; Understanding design principles and implementation issues of System Software, Assembly language programming, Compiler, Parser, Scanner through C / C++ Programming Knowledge.

<b>Unit No.</b>	<b>Course Content</b>	<b>Weight-age (%)</b>
<b>1</b>	Implementation of Structure and File Programs in C / C++	<b>(20%)</b>
<b>2</b>	Implementation of Assembler Pass – I ALGORITHM using C / C++ 1. Data Structure Development 2. Intermediate Code Generation Program Implementation of Assembler Pass-ii Algorithm using C / C++ 3. Machine Code Generation Program <b>Note:</b> The assembler should report appropriate errors whenever encountered with any form of syntax error	<b>(20%)</b>
<b>3</b>	Implementation of Algorithm for Processing of a Macro Definitions using C / C++ Implementation of Algorithm for Macro Expansion using C/ C++	<b>(20%)</b>
<b>4</b>	Implementation of Scanner Implementation of LL1 parser	<b>(20%)</b>
<b>5</b>	Implementation of Recursive Decent Parser Implementation of Operator Precedence Parser	<b>(20%)</b>

**Recommended Lecture Scheme:** Approximately 40 to 45 hours in a semester

**Recommended Practical Scheme:** Applicable

**Assignment:** Five assignments should be given.

**Main Reference Books:**

1. System Programming  
By D.M. Dhamdhare, Tata McGraw Hill
2. Unix Device Driver  
By George Pajere
3. Systems Programming  
By Srimanta Pal, Oxford University Press

**Reference Books:**

1. Compilers  
By Aho , Sethi & Ulman
2. Compiler Construction Principles & Practice Principles and Practice  
By Keneth Louden
3. System Software - An Introduction to Systems Programming  
By Leland L. Beck, Pearson Education Asia, 3rd Edition, 2000
4. System Software  
By Shantanu Chattopadhyay, Prentice-Hall India, 2007