|  |  |  |  |
| --- | --- | --- | --- |
| **Institute / School Name** | DARBHANGA COLLEGE OF ENGINEERING, DARBHANGA | | |
| **Program Name** | B. Tech. | | |
| **Course Code** | 051405 | | |
| **Course Name** | Software Programming Lab | | |
| **Labs (per week)** | 3 hours | **Course Credits** | 5 |
| **Course Coordinator Name** | Punam Prabha | | |

1. **Scope and Objectives of the Course**

The purpose of this lab is to introduce students the concepts and principles of system programming and to enable them to understand the duties and scope of a system programmer. Upon successful completion of the course, the student will be able to: Enumerate and explain the function of assembler, macro-processor, loader, linker and compiler. The course is designed as per the Bureau of Indian Standard guidelines which prepares the students for the future.

1. **Reference Books**

**RB1: System Programming Lab Manual**

1. **Other readings and relevant websites**

|  |  |
| --- | --- |
| **S.No.** | **Link of Journals, Magazines, websites and Research Papers** |
|  | https://www.youtube.com/watch?v=SL--qoiu7yA |
|  | http://www.tutorialspoint.com/compiler\_design/compiler\_design\_tutorial.pdf |
|  | https://www.youtube.com/watch?v=M4R2vz7Rpio |

1. **Lab Plan**

|  |  |
| --- | --- |
| **S. No.** | Experiment Detail |
| 1 | Create a menu driven interface for   1. Displaying contents of a file page wise. 2. Counting vowels, characters and lines in a file. 3. Copying a file. |
| 2 | Write a program to check balance parenthesis of a given program. Also generate the error report. |
| 3 | Write a program to create symbol table for a given assembly language program. |
| 4 | Write a program to create symbol table for a given high-level language program. |
| 5 | Implementation of single pass assembler on a limited set of instructions. |
| 6 | Exploring various features of debug command. |
| 7 | Use of LAX and YACC tools. |

1. **Evaluation Scheme:**

|  |  |  |
| --- | --- | --- |
| Component 1\* | Lab Performance / File work | 40 |
| Component 2 | Internal Viva – Voice | 20 |
| Component 3\*\* | End Term | 40 |
|  | total | 100 |

\*Lab Performance will be evaluated weekly

\*\*The End Term examination for practical courses is held at the end of semester and includes conduct of experiment and an oral examination (viva voce).The mandatory requirement of 75% attendance in all lab classes is to be met for being eligible to appear in this component

**This document is approved by**

|  |  |  |
| --- | --- | --- |
| **Designation** | **Name** | **Signature** |
| Course Coordinator | Punam Prabha |  |
| HoD |  |  |
| Principal |  |  |
| Date |  |  |