

FR. Conceicao Rodrigues College Of Engineering

Father Agnel Ashram, Bandstand, Bandra-west, Mumbai-50

Department of Computer Engineering

T.E. (Computer) (semester VI)

(2022-2023)

Practical Plan

Lab Code	Lab Name	Credit
CSL601	System Programming and Compiler Construction Lab	1
Prerequisite: Theoretical computer science, Operating system. Computer Organization and Architecture		
Lab Outcomes: At the end of the course, the students will be able to		
CSL601.1	Generate machine code by implementing two pass assemblers.	
CSL601.2	Implement Two pass macro processor.	
CSL601.3	Implement scanner and parser of compiler	
CSL601.4	Implement synthesis phase of compiler(any one).	

CO	BL	C	PI	PO	Mapping
CSL601.1.	2,3	1.3	1.3.1	PO1	2
		1.4	1.4.1		
		2.1	2.1.3	PO2	2
		2.4	2.4.3		
CSL601.2.	2, 3	3.2	3.2.1	PO3	1
		1.3	1.3.1	PO1	2
		1.4	1.4.1		
		2.2	2.2.3	PO2	2
CSL601.3.	2,3	2.4	2.4.3		
		3.2	3.2.1	PO3	1
		1.3	1.3.1	PO1	1
		2.2	2.2.2	PO2	1
CSL601.4.	2,3	3.2	3.2.1	PO3	1
		5.1	5.1.1	PO5	1
		1.3	1.3.1	PO1	2
		2.2	2.2.2	PO2	1

PO/PSO

Relationship of course outcomes with program outcomes: Indicate 1 (low importance), 2 (Moderate Importance) or 3(High Importance) in respective mapping cell.

	PO1 (Engg Know)	PO2 (Ana)	PO3 (De sign)	PO4 (inve stiga)	PO5 (tools)	PO6 (engg Soci)	PO7 (Env)	PO8 (Eth)	PO9 (ind Team)	PO10 (comm.)	PO11 (PM)	PO12 (life Long)	PSO1	PSO2
CSL601.1	2	2	1											
CSL601.2	2	2	1											
CSL601.3	1	1	1		1								1	
CSL601.4	1	1	1										1	
Total	6	4	4		1								1	
CO –PO Matrix														

CO-PSO Mapping:

CO	BL	C	PI	PO	Mapping
CSL601.3.	2,3	1.1	1.1.3	PSO1	1
CSL601.4.	2,3	1.1	1.1.3	PSO1	1

Justification of PO to CO mapping

Course Outcome	Competency	Performance Indicator
CSL601.1	1.3 Demonstrate competence in engineering fundamentals 2.1 Demonstrate an ability to identify and formulate complex engineering problem 2.4 Demonstrate an ability to execute a solution process and analyze results 3.2 Demonstrate an ability to generate a diverse set of alternative design solutions	1.3.1 Apply engineering fundamentals 2.1.3 Identify an algorithm that applies to a given problem 2.4.3 Identify the limitations of the solution and sources/causes 3.2.1 Able to explore design alternatives.

CSL601.2	<p>1.3 Demonstrate competence in engineering fundamentals</p> <p>2.1 Demonstrate an ability to identify and formulate complex engineering problem</p> <p>2.4 Demonstrate an ability to execute a solution process and analyze results</p> <p>3.2 Demonstrate an ability to generate a diverse set of alternative design solutions</p>	<p>1.3.1 Apply engineering fundamentals</p> <p>2.1.3 Identify an algorithm that applies to a given problem</p> <p>2.4.3 Identify the limitations of the solution and sources/causes</p> <p>3.2.1 Able to explore design alternatives.</p>
CSL601.3	<p>1.3 Demonstrate competence in engineering fundamentals</p> <p>2.2 Demonstrate an ability to formulate a solution plan and methodology for an engineering problem</p> <p>3.2 Demonstrate an ability to generate a diverse set of alternative design solutions</p> <p>5.1 Demonstrate an ability to identify/create modern engineering tools, techniques and resources</p>	<p>1.3.1 Apply engineering fundamentals</p> <p>2.2.2 Identify functionalities and computing resources.</p> <p>3.2.1 Able to explore design alternatives.</p> <p>5.1.1 Identify modern engineering tools, techniques and resources for engineering activities</p>
CSL601.4	<p>1.3 Demonstrate competence in engineering fundamentals</p> <p>2.2 Demonstrate an ability to formulate a solution plan and methodology for an engineering problem</p> <p>3.2 Demonstrate an ability to generate a diverse set of alternative design solutions</p>	<p>1.3.1 Apply engineering fundamentals</p> <p>2.2.2 Identify functionalities and computing resources.</p> <p>3.2.1 Able to explore design alternatives.</p>

	12.2 Demonstrate an ability to identify changing trends in engineering knowledge and practice	12.2.1 Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current
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CO to PSO

Course Outcome	Competency	Performance Indicator
CSL601.3	1.1 Demonstrate competence in mathematical modelling, and engineering fundamentals.	1.1.3 Apply theory and principles of Computer Science and engineering.

Lab Assessment Tools:

Course Outcomes	Direct Method 80%			Indirect Method (20%)
	Implementation	Postlab Assignments	End Sem Exam	Course exit survey
CSL601.1	30%	20%	50%	100%
CSL601.2	30%	20%	50%	100%
CSL601.3	30%	20%	50%	100%
CSL601.4	30%	20%	50%	100%

CO calculation= (0.8 *Direct method + 0.2*Indirect method)

Rubrics for assessing Course Outcome with each assessment tool:

1	Time Line (2)	N.A	Two sessions late (0)	One session late (1)	Early or on time (2)
2	Output (3)	Practical not performed. (0)	Practical performed but failed to show output due to some error.	Output shown but not as expected (Partial output) (2)	Expected output shown (3)

			(1)		
3	Code optimization (3)	Practical not performed (0)	Code is unstructured and difficult to understand(1)	The code is structured (2)	The code is structured and optimized (3)
4	Knowledge about the topic (2)	N.A	Not able to answer any question(0)	Able to answer few questions (1)	Answered all the questions with relevant explanation(2)

Attainment:

CO CSL602.1:

Direct Method

$$A_{\text{CSL602.1D}} = 0.3 * \text{Lab Performance} + 0.2 * \text{Post Lab} + 0.5 * \text{SEE}$$

Final Attainment:

$$A_{\text{CSL602.1}} = 0.8 * A_{\text{CSL602.1D}} + 0.2 * A_{\text{CSL602.1I}}$$

CO CSL602.2:

Direct Method

$$A_{\text{CSL602.2D}} = 0.3 * \text{Lab Performance} + 0.2 * \text{Post Lab} + 0.5 * \text{SEE}$$

Final Attainment:

$$A_{\text{CSL602.2}} = 0.8 * A_{\text{CSL602.2D}} + 0.2 * A_{\text{CSL602.2I}}$$

CO CSL602.3:

Direct Method

$$A_{\text{CSL602.3D}} = 0.3 * \text{Lab Performance} + 0.2 * \text{Post Lab} + 0.5 * \text{SEE}$$

Final Attainment:

$$A_{\text{CSL602.3}} = 0.8 * A_{\text{CSL602.3D}} + 0.2 * A_{\text{CSL602.3I}}$$

CO CSL602.4:

Direct Method

$$A_{\text{CSL602.4D}} = 0.3 * \text{Lab Performance} + 0.2 * \text{Post Lab} + 0.5 * \text{SEE}$$

Final Attainment:

$$A_{\text{CSL602.4}} = 0.8 * A_{\text{CSL602.4D}} + 0.2 * A_{\text{CSL602.4I}}$$

Practical Session Plan

CLASS		TE Computer Engineering, Semester VI	
Academic Term		January- April 2023	
Subject		System Programming and Compiler Construction Lab (CSL 601)	
<i>Evaluation System</i>			<i>Hours</i>
	Practical Examination		--
	Oral Examination		--
	Term work		--
	Total		--
<i>Time Table</i>	<i>Day</i>	<i>Batch</i>	<i>Time</i>
	<i>Monday</i>	<i>A</i>	<i>2.45-4.45Pm</i>
	<i>Wednesday</i>	<i>D</i>	<i>11.00am-1.00 pm</i>
	<i>Thursday</i>	<i>C</i>	<i>11.00am-1.00 pm</i>
	<i>Friday</i>	<i>B</i>	<i>11.00am-1.00 pm</i>
Title of Experiments			
<i>Sr.</i>	<i>Title</i>		<i>Attained COs</i>
1	Implementations of two pass Assembler.		CSL601.1
2	Implementation of Two pass Macro Processor.		CSL601.2
3	Implement symbol table		CSL601.3
4	Implementation of Lexical Analyzer.		CSL601.3
5	Implementation of Parser (Any one).		CSL601.3
6	Study and implement experiments on LEX, YACC.		CSL601.4
7	Implementation of code generation phase of compiler.		CSL601.3
Newly added experiments			
1	To generate three address codes		CSL601.4
Strong Students Activity			
1	Implement First and Follow set of given grammar		CSL601.3
2	Implement mini-C Compiler using YACC		CSL601.3
Practical Session Plan			
<i>Batch</i>	<i>Dates</i>		<i>Remarks</i>
	<i>Planned</i>	<i>Actual</i>	
Experiment No.3			
Implement symbol table			

A	23/1/2023		
B	25/1/2023		
C	2/2/2023		
D	27/1/2023		
Experiment No. 4			
Implementation of Lexical Analyzer.			
A	30/01/2023		
B	1/2/2023		
C	9/2/2023		
D	3/2/2023		
Experiment No. 5			
Implementation of Parser (Any one).			
A	6/2/2023		
B	8/2/2023		
C	16/2/2023		
D	10/2/2023		
Experiment No. 6			
Study and implement experiments on LEX, YACC.			
A	13/02/2023		
B	15/2/2023		
C	3/3/2023		
D	17/2/2023		
Experiment No.8			
To generate three address codes .			
A	20/02/2023		
B	22/2/2023		
C	9/3/2023		
D	24/2/2023		
Experiment No. 7			
Implementation of code generation phase of compiler.			
A	13/03/2023		
B	8/3/2023		
C	16/3/2023		
D	10/3/2023		
Experiment No. 1			
Implementations of two pass Assembler.			
A	20/03/2023		
B	15/3/2023		
C	23/3/2023		
D	1/3/2023		
Experiment No. 8			
Implementation of Two pass Macro Processor.			
A	27/03/2023		
B	24/4/2023		
C	6/4/2023		

D	24/3/2023		
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Submitted By	Approved By
Prof. Supriya Kamoji	i) Dr. Sujata Deshmukh Sign:
Sign:	ii) Dr. B. S. Daga Sign:
	iii) Prof. Merly Thomas Sign:
	iv) Prof. Monica Khanore Sign:
	v) Prof. Roshni Padate Sign:
	vi) Prof. Kalpana Deorukhkar Sign:
Date of Submission:	Date of Approval:
Remarks by DQAC (if any)	