

### Programming for Problem Solving Lab

<b>Course Code</b>	20ES1253	<b>Year</b>	I	<b>Semester</b>	II
<b>Course Category</b>	Engineering Science	<b>Branch</b>	CSE	<b>Course Type</b>	Lab
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	Nil
<b>Continuous Internal Evaluation</b>	15	<b>Semester End Evaluation</b>	35	<b>Total Marks</b>	50

#### Course Outcomes

Upon successful completion of the course, the student will be able to (L3)

CO1 Apply Structured Programming/C constructs for solving problems (L3).

CO2 Implement programs as an individual on different IDEs/ online platforms. (L3)

CO3 Develop an effective report based on various programs implemented.

CO4 Apply technical knowledge for a given problem and express with an effective oral communication. (L3)

CO5 Analyze outputs using given constraints/test cases. (L4)

#### Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1													√	
CO2					√				√					
CO3										√				
CO4	√									√				
CO5			√											

#### Syllabus

Expt. No.	Syllabus	Mapped CO's
1	Draw flowcharts for fundamental algorithms.	CO1,CO2, CO3,CO4,CO5
2	C Programs to demonstrate C-tokens.	CO1,CO2, CO3,CO4,CO5
3	C Programs on usage of operators.	CO1,CO2, CO3,CO4,CO5
4	C Programs to demonstrate Decision making and branching (Selection)	CO1,CO2, CO3,CO4,CO5
5	C programs to demonstrate different loops.	CO1,CO2, CO3,CO4,CO5
6	C programs to demonstrate 1-D arrays.	CO1,CO2, CO3,CO4,CO5
7	C programs to demonstrate multi-dimensional arrays.	CO1,CO2, CO3,CO4,CO5
8	C programs to perform operations on strings with String handling functions and without String handling functions.	CO1,CO2, CO3,CO4,CO5
9	C programs to demonstrate functions.	CO1,CO2, CO3,CO4,CO5
10	C programs on pointers.	CO1,CO2, CO3,CO4,CO5
11	C programs on structures and unions.	CO1,CO2, CO3,CO4,CO5
12	C programs to demonstrate files.	CO1,CO2,

	CO3,CO4,CO5
<b>Learning Resources</b>	
Text Books	
1. Programming in C, Reema Thareja, AICTE Edition, 2018, Oxford University Press	
Reference Books	
1. Computer Science: A Structured Programming Approach Using C, B. A. Forouzan and R.F. Gilberg, Third Edition, 2007, Cengage Learning.	
2. Programming in C, Pradip Dey, Manas Ghosh, AICTE Edition, Oxford University Press.	
3. Programming with C, B. Gottfried, Third Edition, 2017, Schaum_s outlines, McGraw Hill (India).	
4. Problem Solving and Program Design in C, Jeri R. Hanly, Elliot B. Koffman, Fifth Edition, Pearson.	
e- Resources & other digital material	
1. <a href="http://cprogramminglanguage.net/">http://cprogramminglanguage.net/</a>	
2. <a href="https://www.geeksforgeeks.org/c-programming-language/">https://www.geeksforgeeks.org/c-programming-language/</a>	
3. <a href="https://nptel.ac.in/courses/106105085/4">https://nptel.ac.in/courses/106105085/4</a>	