

Semester	<b>2 – B1CS230212T</b>
Course <sup>*1</sup>	<b>Minor</b>
Paper Title	<b>PROBLEM SOLVING TECHNIQUES USING C</b>
No. of Credits <sup>*2</sup>	<b>4</b>
Theory / Practical / Composite	<b>COMPOSITE</b>
Minimum No. of preparatory hours per week a student has to devote	5
Number of Modules	1
Syllabus	<p><b>1. Generations of Programming Languages:</b> Machine Language, Assembly Language, Procedural Language, Object Oriented Language.-</p> <p><b>2. Introduction to C Programming Language:</b> Features and Structure of a C Program, Character Set, Identifiers and Keywords, Variables and Constants, Brief Idea about C Library.</p> <p><b>3. Data Types in C:</b> Primitive, User-Defined, Enumerated, Type Casting, Declaration.</p> <p><b>4. Operators in C:</b> Different Types, Precedence and Associativity, Expressions using Operators</p> <p><b>5. Input-Output Operations:</b> Standard Functions with Escape Sequences and Format Specifiers</p> <p><b>6. Decision Making Statement:</b> if-else, switch-case, Ternary Operator</p> <p><b>7. Iterative Statements:</b> for, while and do-while with control statements like break and continue</p> <p><b>8. Functions:</b> Declaration, Calling and Definition, Idea about Recursive Function</p> <p><b>9. Arrays and Pointers.</b></p> <p><b>10. Storage Classes.</b></p> <p><b>11. Structure and Union.</b></p> <p><b>12. Macros.</b></p>
Learning Outcomes	<p>1. Understand the basic concepts of the procedural paradigm</p> <p>2. Build interactive and modular programs</p> <p>3. Learn the concepts of memory management through pointers</p>

	4. Learn library functions	
Reading/Reference Lists *4	1. The C Programming Language, Kernighan and Ritchie, PHI Publications 2. Programming with C, Gottfried, TMH Publications 3. Programming in C, Dey and Ghosh, Oxford Publications 4. Programming in ANSI C, Balaguruswamy, Mc Graw Hill 5. NPTEL course on Introduction to Programming in C by Dr. Satyadev Nandakumar, IIT Kanpur; course link: <a href="https://youtu.be/XTiIi-LOY8">https://youtu.be/XTiIi-LOY8</a> 6. SWAYAM Course on Art of C Programming by Dr. Lajish V.L, Department of Computer Science, University of Calicut.	
Evaluation	Theory CIA: 12 Attendance: 3 Semester Exam: 45	Practical – <b>B1CS230212P</b> CA: 38 Attendance: 2
Paper Structure for Theory Semester Exam	Answer 3 out of 5 of 15 marks each	