| Branch: BCA | Semester-I |
|---|---|
| Subject Code: 1201 | Lecture: 02<br>Credit: 02 |
| Course Opted | Core Course-1 (Practical) |
| Subject Title | PROBLEM SOLVING USING C LAB |

**Course Objectives:**

- To enable the students to learn a programming language.
- To learn problem solving techniques
- To teach the student to write programs in C and to solve the problems.

**Course Outcomes**:

The student would be able

- Read, understand and trace the execution of programs written in C language.
- Write the C code for a given algorithm.
- Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor. •
- Write programs that perform operations using derived data types.
- Implement simple file operations

| Module | Sr. No. | Topic and Details | No. of Lectures Assigned | Marks Weightage |
|---|---|---|---|---|
| UNIT- I | 1. | Simple Program,<br>Implementation of Operators : Built in Operators and function, Arithmetic, Logical, Relational, bitwise, Precedence<br>and Associativity, composite statements. Unary, binary and ternary operators. | 5 | 10 |
| | 2. | Concept of header files, Preprocessor directives: #include, #define. And macros implementations ,<br>Implementation of Storage types: Automatic external, register and static variables | | |
| UNIT- II | 3. | Console based I/O and related built in I/O function: printf(), scanf(), getch(), getchar(), putchar(); | | |
| | 4. | Control Statement: Decision Making Statements, if, Nested if, if-else, Nested if-else, if-else-if, switch, etc. The Conditional Expression; Iterative Statements- The for loop, . The while loop, The do-while loop; Jumping Statements- The goto& label ,The break & continue, The exit() function | 12 | 24 |
| UNIT- III | 5. | Implementation of Functions: Defining and accessing, passing arguments, Function prototypes, function calling<br>mechanism, call by value, call by reference, recursive function; String Manipulations | | |
| | 6. | Pointer Declaration and Initialization of Pointer variables,<br>pointer Arithmetic, Pointers and Character Strings | | |
| | 7. | Implementation of 1-D and multi dimension Array, One- Dimensional Array, Two-Dimensional Array, Passing array to<br>a function, pointer to Array. | 5 | 10 |

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|---|---|---|---|---|
| **UNIT-IV** | 8. | Programs Using Structure and Union : Defining and Declaring Structure Variables, .Dot Operator, Nested Structure, Array of Structure, pointer to structure, Examples of Union. | | |
| | 9. | Programs using I/O Operations File Handling : File operations(create, open, read, move, write, close) | 3 | 6 |
| | 10. | Input/output operations on file Character by –(fgetc, fputc), Reading and writing files | | |
| | | **TOTAL** | **25** | **50** |

**Text Book:**

1. C – programming E.Balagurusamy, Tata McGray Hill, 1990

**Reference Books:**


1. C: The Complete Reference (Fourth Edition), Herbert Schildt, Tata McGraw-Hill Education Pvt. Ltd., 2000
2. Ramkumar and Agrawal, “Programming in ANSI C”, Tata McGraw Hill, 1996.
3. Y.P Kanetkar, “Let Us “C”, , Infinity Science Press,2008