B.A(Liberal Arts)

SEMESTER-VI
(BLAB33608T) FUNDAMENTALS OF PROGRAMMING LANGUAGES (SEC-4) (iii)

MAX MARKS:100
EXTERNAL:70
INTERNAL:30
PASS:40%

Objective: **Credits: 4**

The course aims to help learners in understanding the significance of an implementation of a programming language in a compiler or interpreter. It will help in increasing the ability to learn new programming languages and enable them to make good use of debuggers and related tools.

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions each from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any 10 questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A, and B of the question paper, and any ten short answer questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Section-A

Programming Basics: Problem definition, Algorithm, Flowchart, Coding, Compilation, Testing. Functional/Procedural Oriented Programming Approach: History of C, Structure of a C program, Character set, Identifiers and keywords, constants, variables, data types. I/O functions: formatted & unformatted console I/O functions. Operators and expressions: Arithmetic, Unary, Logical, Relational operators, assignment operators,

Conditional operators. Control statements: Branching statements, looping statements and Jumping. Functions: User defined and Library functions, Function prototype, definition and call, formal and actual arguments, local and global variables, methods of parameter passing to functions, recursion. Arrays, Structure and union, Pointers.

Section-B

Object Oriented Programming Approach (OOP)**:** Features of OOP, Comparison of C, C++ and Java, Structure of Java program.

Class: Syntax, Instance variable, class variables, methods, constructors, overloading of constructors and methods.

Inheritance**:** Types of inheritance, use of super0, method overriding, final class, abstract class, wrapper classes.

Exception Handling**:** Types of errors, Exception classes, Exception handling in java, use of try, catch, finally, throw and throws.

Suggested Readings:

1 E. Balagurusamy, Programming in C, Tata McGraw-Hill.

2 Kamathane, Programming in C, Oxford University Press.

3 E. Balagurusamy "*Programming with Java*", TMH

4 Patrick Naughton and Herbert Schildt, "*The Complete Reference Java 2*", TMH