Course-8 Title: Programming Language

Course No.: **CIT 111** 01- Credit : 3 Contact Hours: 3 Total Marks: 100

11.1 Rationale:

To become a successful computer professional, one needs to know programming languages to solve programming problems using a high-level programming language.

11.2 Objectives:

Students will be

1. able to verify variable names of different data types and expressions.
2. able to apply control statements, functions, arrays, strings, pointers and I/O.
3. able to solve problems using a high-level programming language.

11.3 Learning Outcomes	11.4 Course Content	11.5 Teaching Strategy/ Learning Experience	11.6 Assessment Strategy
- Define and classify computer generations - Identify hardware and software components - Define and Explain operating systems - Convert numbers with different bases	Computer Generations and Classification, Data representation, Hardware Components, Software Components, Operating Systems, Computers and Communications.	Lecture Exercise Demonstration	Quiz Assignment
- Identify data types - Verify variable names - Explain operators	Programming concepts; Structured programming language: data types, variables, operators	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Verify expressions - Apply control structures	type of expressions , control structures	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Explain functions - Apply functions and recursion - Explain scope rules and storage classes - Distinguish between local and global variables	Functions and program structures: function basics, parameter passing conventions, scope rules and storage classes, recursion	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Identify header files	Header files; Preprocessor;	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Apply arrays, strings and pointers - Differentiate among arrays, strings and pointers	Arrays, String and Pointers	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Explain user defined data types	User defined data type: structures, unions, enumeration;	Lecture Exercise	Quiz Assignment

		Demonstration	Practical exam
- Explain input-output	Input and output: standard input and output, formatted input and output	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Apply file I/O	file access	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Apply dynamic memory allocation	Dynamic memory allocation	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Explain and apply argument list	Variable length argument list; Command line parameters	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Apply error handling	Error handling	Lecture Exercise Demonstration	Quiz Assignment Practical exam
- Apply graphics routines	Introduction to Graphics routines	Lecture Exercise Demonstration	Quiz Assignment Practical exam

RECOMMENDED BOOKS AND PERIODICALS

Text Books:

1. E.Balagurushamy : “Programming with ANSI C”
2. E.Balagurushamy : “Object-oriented programming with C++”
3. Y. Kanitkar : “Let Us C”
4. H. Schildt : "Teach yourself C".
5. H. Schildt : "C: The Complete Reference".
6. Y. Kanitkar : “Pointers in C”
7. Kernighan & Ritchie : “The C programming language”
8. R. G. dromey : "how to solve it by Computer"