

# Computer Programming – I [CP – I]

F.E. Sem. I

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## EVALUATION SYSTEM

	Time	Marks
<b>Theory Exam</b>	3 Hrs.	100
<b>Practical Exam</b>	–	–
<b>Oral Exam</b>	–	–
<b>Term Work</b>	–	25

## SYLLABUS

### 1. Structured Programming using C++ :

- C++ as a superset of C programming language
- C++ Fundamentals: Character Set, Identifiers and keywords, Data Types, Constants, and Variables Declarations, Operators & Expressions, Library functions, statements, Symbolic Constants, Preprocessor directives.

### 2. Data Input and Output :

- getchar(), putchar(), scanf(), printf(), gets(), puts(), cin, cout, setw(), endl etc.
- **Control Statements** : if–else, while, do–while, go to, for statements, nested control structures, switch, break, continue statements, comma operator.

### 3. Functions :

- Functions prototypes, passing arguments to a function by value and by reference, recursion, over loading functions, storage classes
- **Arrays : Defining** – processing array, passing arrays to function, Introduction to Multidimensional arrays, Arrays and strings.

### 4. Pointers :

- Declarations, Referencing and de–referencing, passing pointers to functions, pointer to functions, pointer to arrays Creation and manipulation of linked list.
- Structures and Unions : Defining and processing a structure.

### 5. • Introduction to Object Oriented Programming in C++

- Classes, Objects, data encapsulation, access specifiers : private, public and protected, inheritance in details, operator overloading of Unary and Binary arithmetic operators, virtual functions, pure virtual functions.

### 6. • Late binding, friend functions, Object as function parameter, overriding functions and over loaded constructors, copy constructor, static class members.

### Reference:

1. Programming in C++ – (*Balagurusamy*), Tata Mcgraw Hill.
2. Programming in C++ – Schuam out line series.
3. Let us C – (*Yashwant Kanetkar*), BPB publications
4. Practical C++, programming O' – (*Reilly*).
5. Algorithms with C++, O' – (*Reilly*).

