GENERAL AWARENESS COURSE I: 3A11CSC PROGRAMMING IN C++

SEMESTER	COURSE CODE	HOURS PER WEEK	CREDIT	EXAM HRS
3	3A11CSC	3	3	3

COURSE OUTCOME

CO1: Describe the Object-Oriented Paradigm
CO2: Understand dynamic memory management techniques
CO3: Analyze a problem and construct a C++ program that solves it
CO4: Discover errors in a C++ program and describe how to fix them

Unit I:

Procedure oriented programming; Object oriented programming; OOP-Concepts, benefits, applications. What is c++? Applications of c++; Structure of C++ program; How to create and execute a C++ program.Reference variables.Extraction and insertion operator, Scope resolution operator, Memory dereferencing and memory management operator.Inline function default arguments; Constant arguments.

(12Hrs)

Unit II:

Specifying a class; Defining member functions making an outside function inline; nesting of member functions.private member functions. arrays within a class arrays of objects; objects as function arguments; returning objects. memory allocation for objects, static data members; static member functions, function overloading, friend functions; local classes. Constructors; default constructors, Parameterized constructors; multiple constructors in a class, constructors with default arguments; copy constructor; Destructors.

(16Hrs)

Unit III:

Operator overloading; overloading unary operators, overloading binary operators, overloading binary operators using friends; rules for overloading operators. Inheritance - defining derived classes, single inheritance; making a private member inheritance; multilevel inheritance, multiple inheritance; hierarchical inheritance; hybrid inheritance; virtual base classes constructors in derived classes; abstract classes; Nesting of classes;

Pointers-Pointers to objects; this pointer, Pointers to derived classes; virtual functions, pure virtual functions.

(14Hrs)

Unit IV:

C++ streams; stream classes , unformatted I/O operations; formatted console I/O operations; Managing output with manipulators. Files – classes for file stream operation and their manipulations. Sequential input and output operation updating a file: random access, error handling during file operations.

(12Hrs)

Books for Study:

1. Object Oriented Programming with C++; E. Balagurusamy; 3rd Edn; TMH 2006.

Books for Reference:

1. K R Venugopal, RajkumarBuyya, "Mastering C++", Tata McGraw Hill, 2013.
2. Object Oriented Programming with ANSI & Turbo C++, Ashok N. Kamthane, Pearson Education
3. Programming in C++, M.T. Somashekara, Prentice Hall of India, New Delhi
4. Let us C++, YeshawantKanetkar, BPB

Marks including choice:

Unit	Marks
I	12
II	18
III	18
IV	12