

MSC (CA&IT) - Semester: III
(Effective from year 2024-25)

Course Code:	CAIT-302	Course Title:	Object Oriented Programming with C++
Course Credits:	02	Hour of Teaching/Week:	02
Internal Assessment Marks:	25	External Exam Marks:	25
Exam Duration	1 Hr		

Unit	Contents
1.	Principles of Object Oriented Programming (OOP), A Look at Procedure-Oriented Programming, OOP Paradigm, Basic Concepts of OOP, Benefits of OOP, Application of OOP. What is C++, A simple C++ Program, More C++ statements, Structure of C++ Program. data types ,variables, constants, expressions, statements and operators, Usage of header files ,Control flow statements : if else, for loop, while loop, do while loop, switch, break and continue Arrays in C++ : introduction, declaration, initialization of one , two and multi-dimensional arrays, operations on arrays Working with strings : introduction, declaration, string manipulation and arrays of string Classes and objects in C++ Constructors : default, parameterized, copy, constructor overloading and destructor
2.	Access specifiers, implementing and accessing class members Working with objects: constant objects, nameless objects, live objects, Introduction to functions, library and user-defined functions, parameters passing, default arguments. Functions overloading , inline functions, friend functions and virtual functions Inheritance: Introduction, derived class declaration, forms of inheritance, Inheritance and member access ability,

References

- 1.Object Oriented Programming with C++ by E. Balagurusamy, Tata McGraw-Hill.
2. Object Oriented Programming in Turbo C++ by Rob
3. Object Oriented Programming in C++ by Robert Lafore Techmedia Publication.
4. Object Oriented Programming in C++ R Rajaram New Age International Publishers 2nd

MSC (CA&IT) - Semester: III

(Effective from year 2024-25)

Course Code:	CAIT-302-P	Course Title:	Lab : Practical based on CAIT-302
Course Credits:	02	Hour of Teaching/Week:	04
Internal Assessment Marks:	25	External Exam Marks:	25
Exam Duration	1 Hr		

Sample List of Programs

1. Implementation of a scope resolution operator, Manipulators and reference variable
2. Implementation of feature of a inline function.
3. Implementation of user defined functions and its various features
4. Implementation of Class and its basic feature
5. Implantation of arrays within a class.
6. Show use of "Static Member Function".
7. Concept of "Array of Object".
8. Concept of "Object as a Arguments".
9. Implementation of a friend function and its various features.
10. Concept of a returning objects.
11. Implementation of constructors and its various features.
12. Concept of constructing matrix objects.
13. Implementation of destructors.
14. Implantation of overloading various operators
15. Implementation of inheritance and its types
16. Concept of virtual base class.
17. Implementation of pointers to objects.
18. Implementation of this pointer.
19. Implementation of virtual function.
20. Implantation of file and its various operations