

Krantiguru Shyamji Krishna Verma Kachchh University, Bhuj
Master of Science (Computer Applications & Information Technology)
Semester: III

Paper Code: CCCS309		Total Credit : 4
Title of Paper: Object Oriented Programming with C++		Total Marks : 70
		Time : 3 Hrs
Unit	Description	Weighting
I	Object Oriented Programming (OOP) Concepts and Introduction to C++ Structured programming vs. object oriented programming Basic OOP concepts : objects , classes , encapsulation , data hiding , inheritance, polymorphism Introduction to C++: structure of a 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	20%
II	Basic I/O in C++ 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	20%
III	Access specifiers, implementing and accessing class members Working with objects: constant objects, nameless objects, live objects, arrays of 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, constructor and destructor in derived class, construction invocation and data member initialization.	20%
IV	Operator overloading : Introduction, overloaded operators, unary operator overloading, operator keyword, operator return values, binary operators overloading, overloading with friend function Usages of Pointers in C++ : basic overview Dynamic memory allocation	20%
V	Files : Introduction and applications File operations: open, read, write, seek and close, Command Line Arguments. Exception Handling, Components of exception handling and its example, Namespaces: The Name conflict problem, Using Namespaces, Defining Namespaces, Unnamed Namespaces, Nested namespaces, Namespace Aliases, std Namespace	20%
Basic Text & Reference Books :-		
1.	Object Oriented Programming with C++ by E. Balagurusamy, Tata McGraw-Hill.	
2.	Object Oriented Programming in Turbo C++ by Robert Lafore, Galgotia Publications.	
3.	Programming with ANSI C++ by Bhusan Trivedi	

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Unit	Description	Total Marks
All	Q.1 (A) Multiple Choice Question.	06
	Q.1 (B) Answer the following. (With Internal Option) (Definitions, Blanks, Full Forms, True/False, Match the Following)	08
I, II	Q.2 (A) Short / Medium Questions (With Internal Option)	06
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08
II, III	Q.3 (A) Short / Medium Questions (With Internal Option)	06
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08
III, IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06
	Q.4 (B) C++ Program. (With Internal Option)	08
IV, V	Q.5 (A) Short / Medium Questions (With Internal Option)	06
	Q.5 (B) C++ Program. (With Internal Option)	08