**Department of Computer Science**

**Rollwala Computer Centre**

**Gujarat University**

**MCA – II**

**Object Oriented Concepts and Programming (Theory Assignment - II )**

|  | What is destructor in C++? Explain significance of destructor in C++. |
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|  | Define Reference variable. Compare it with pointer variable. |
|  | Explain returning more values using reference in C++ with example. |
|  | Justify, Assignment operator cannot be overloaded using Friend Function. |
|  | Differentiate Type conversion and Type casting in C++. |
|  | Explain various type conversions with class type data with the help of examples. |
|  | Define Inheritance in C++. Explain its various types in detail. |
|  | Explain Constructors used in derived class and member initialization list in Constructors. |
|  | What is Virtual base class? Show its importance respect to Inheritance with suitable example. |
|  | Difference between containership and inheritance. |
|  | What is this pointer? Write its application in C++. |
|  | Differentiate between static and dynamic allocation of memory. Also explain what do you understand by memory leaks? How this can be avoided? |
|  | What is polymorphism? Differentiate between early binding and late binding. |
|  | Define and explain the use of virtual function. Also show other way to resolve to access the derived class object and its member function using base class pointer. Also explain pure virtual function and its use in C++. |
|  | Compare : Abstract Class and Virtual Base Class |
|  | Explain Exception Handling in C++. |
|  | Explain Generic programming. Also explain Class Templates with multiple parameters and overloading of template functions. |
|  | What is File mode? Describe the Various file mode options available in C++. |
|  | Describe functions and its importance to manipulate file pointer used in C++. |
|  | Explain functions used for sequential input and output operations in files in C++. |
|  | Explain File Error handling during File Operations. |
|  | Describe manipulators and ios class functions and its flags. |
|  | Explain user defined output functions (manipulator functions). |
|  | Explain *string* class and manipulation of string objects. |
|  | Define namespace and its purpose. Also explain the use of *using* keyword with namespace. |
|  | Compare and Contrast Inline function and normal function. |
|  | Explain function template and class template with examples. |
|  | Why we need user defined conversion? Explain different cases where user defined conversion are needed. |
|  | How static data members work in template? |
|  | Explain classes with multiple generic data types? |
|  | Explain importance of destructor? |
|  | What is inheritance? Explain multiple Inheritances and discuss the problem with the multiple inheritances? |
|  | Explain derivation using different access modifier. |