

**OBJECT ORIENTED CONCELPTS USING C++**

1	Introduction	Introducing Object-Oriented Approach, complexity of the structure and design of complex systems, Relating to other paradigms (functional, data decomposition). Basic terms and ideas: Abstraction, Encapsulation, Inheritance, Polymorphism, Review of C, Difference between C and C++ - cin, cout, new, delete operators.	14
2	Classes and Objects	Encapsulation, information hiding, abstract data types, Object & classes, attributes, methods, C++ class declaration, State identity and behavior of an object, Constructors and destructors, instantiation of objects, Default parameter value, objects, dynamic memory allocation, Metaclass/abstract classes.	14
3	Inheritance and Polymorphism	Inheritance, Class hierarchy, derivation – public, private & protected, Aggregation, composition versus classification hierarchies, Polymorphism, Categorization of polymorphism techniques, Method polymorphism, Polymorphism by parameter, Operator overloading, Parametric polymorphism	14
4	Generic function	Template function, function name overloading, Overriding inheritance methods, Runtime polymorphism, Multiple Inheritance. Files and Exception Handling: Persistent objects, Streams and files, Namespaces, Exception handling, Generic	14