

Object oriented methodology and programming (IT- 505)

Total Marks – 70

Time – 3 Hours

Answer any **Five** Questions

1. a) 'Objects are primary unit of decomposition' – Justify.
b) Define abstract data type. How they are different from primitive data types?
c) 'Reuse has the largest potential for increasing productivity' – discuss in context of Object oriented programming.

$$4+6+4 = 14$$

2. a) State the advantages of Data abstraction.
b) What is data encapsulation and discuss its advantages for object oriented applications.
c) State the major differences between Object Oriented programming languages and Procedural programming languages.

$$3+5+6 = 14$$

3. a) Why are Inline functions used in C++. How they are different from Macros?
b) What are volatile objects and state its use with a suitable example.
c) Why are namespaces used in C++. How they are different from Class?

$$4+5+5 = 14$$

4. a) What is copy constructor ?
b) State at least three instances of use of a copy constructor.
c) State the significance of using arguments as reference in copy constructors.
d) How constructors can be used for object initialization for constant objects .
e) Why are static data members used in C++? Show with an example.

$$2+3+3+2+4 = 14$$

5. a) Define the types of inheritance used in C++.
b) What is multiple inheritance and the how to resolve the problem of name conflict associated with it?
c) Discuss run time polymorphism and dynamic binding used in C++ with a suitable example.

$$4+5+5 = 14$$

6. a) what is visual modeling and how it is related with UML?
b) State the goals of UML.
c) Define the components of UML?

$$4+ 4+6 = 14$$

7. a) State the criteria for finding actors and Use cases in UML.
b) Briefly explain the difference between includes and extends relationships used in Use case view with a suitable example.
c) What are interaction diagrams? State the types of interaction diagrams used in UML and the difference in their applications.

$$6+4+4 = 14$$