



**Unit-2: Object Oriented Programming in C#**

**Short Questions [1 Mark]**

1. What is Polymorphism in C#?
2. What is Overriding in C#?
3. What is an Interface in C#?
4. What is a Constructor in C#?
5. What is a Destructor in C#?
6. What is the base class in .net from which all the classes are derived from?
7. Difference in one line Method Overriding and Method Overloading.
8. How can we set class to be inherited, but prevent the method from being over-ridden?
9. Why can't we specify access modifiers for items in an interface?
10. List different types of Constructors used in C#.
11. Can you use multiple inheritance in .NET?

**Short Questions [2 Marks]**

1. What is an Object?
2. Give the difference between a struct and a class in C#.
3. What is Data Encapsulation? Give example.
4. Explain Inheritance in C# with example.
5. What is the difference between Interface and Abstract Class in .NET?
6. What is the difference between "ref" and "out" keywords?  
or  
What is the difference between "out" and "ref" parameters in C#?
7. Can "this" be used within a static method? Justify your answer.
8. What is extension method in C# and how can you use them?
9. What are partial classes?
10. State the difference between late binding and early binding in C#.
11. What happens if the inherited interfaces have conflicting method names?
12. What is the Constructor Chaining in C#?



13.	What is Constructor Overloading in C#.net?
14.	What are the features of Generics?
15.	State the use of “static” keyword in C#.  or Explain Static Members in C#.
16.	What is Method Hiding in C#?
17.	Briefly explain Abstract Class in C#.NET with example.
18.	What is implementation and interface inheritance?
<b>Scenario based Questions [5 Marks]</b>	
1.	<p>Create a class EMPLOYEE having empname, post, salary as properties. Create one derive class EXTRA which gives bonus to employee on bases of following criteria.</p> <p>If Gross Salary <math>\geq</math> 40000, then 15% of basic salary.</p> <p>If Gross Salary <math>\geq</math> 50000, then 20% of basic salary.</p> <p>If Gross Salary <math>\geq</math> 60000, then 25% of basic salary.</p> <p>Calculate the Gross salary and display the bonus of employee in a proper format.</p>
2.	Create a class called “product” containing constructor to store details of product having properties pcode, pname, price, quantity and category. Provide method to bind combobox with product name and allow to display the price of product based on product selection. Also provide method to display the details of products.
3.	<p>Write a C sharp code to implement the following class hierarchy with proper member variables and methods for each class, using appropriate constructor for each class and function named “Area” to find the area of objects of different shapes:</p> <div style="text-align: center;"> <pre> graph TD     Shape[Shape] --&gt; Square[Square]     Shape --&gt; Circle[Circle]     Shape --&gt; Triangle[Triangle] </pre> </div>
4.	Write a C# code for a BANKING application that will save customer and their account details with proper methods and properties to deposit amount, withdraw amount and also to display balance.



5.	Create a class COMPANY having data member like cname, city and type. EMPLOYEE class having data member like ename, city, joining date, experience and salary, which inherit the properties of company. Display the information of all employees whose experience is more than five years with the help of reference variable of base class.
6.	Create a TYRE class which has a member method TyreType() which shows message that “TYRE is Tubeless”. There are also two classes SCOOTER and CAR which inherits the functionality of TYRE class. Use appropriate properties for classes.

**Long Questions [5 Marks]**

1.	Explain class in C#.NET with example.
2.	Differentiate Copy constructor and Static constructor in C# with proper example.
3.	How the Method can be overloaded in different ways? Explain with proper example.
4.	Discuss the use of Virtual Keyword in C# with proper example.
5.	Explain Generics in C#.net.