MCQ on OOPs Concept & Features

1. Which was the first purely object oriented programming language developed?
a) Java
b) C++
c) SmallTalk
d) Kotlin
View Answer
2. Which of the following best defines a class?
a) Parent of an object
b) Instance of an object
c) Blueprint of an object
d) Scope of an object
View Answer
3. Who invented OOP?
a) Alan Kay
b) Andrea Ferro
c) Dennis Ritchie
d) Adele Goldberg

4. What is the additional feature in classes that was not in structures?
a) Data members
b) Member functions
c) Static data allowed
d) Public access specifier
View Answer
5. Which is not feature of OOP in general definitions?
a) Code reusability
b) Modularity
c) Duplicate/Redundant data
d) Efficient Code

6. Pure OOP can be implemented without using class in a program. (True or False)
a) True
b) False
View Answer
7. Which Feature of OOP illustrated the code reusability?
a) Polymorphism
b) Abstraction
c) Encapsulation
d) Inheritance
View Answer
8. Which language does not support all 4 types of inheritance?
a) C++
b) Java
c) Kotlin

d) Small Talk
View Answer
9. How many classes can be defined in a single program?
a) Only 1
b) Only 100
c) Only 999
d) As many as you want
View Answer
10. When OOP concept did first came into picture?
a) 1970’s
b) 1980’s
c) 1993
d) 1995
View Answer
11. Why Java is Partially OOP language?
a) It supports usual declaration of primitive data types
b) It doesn’t support all types of inheritance
c) It allows code to be written outside classes
d) It does not support pointers
View Answer
12. Which concept of OOP is false for C++?
a) Code can be written without using classes
b) Code must contain at least one class
c) A class must have member functions
d) At least one object should be declared in code
View Answer
13. Which header file is required in C++ to use OOP?
a) iostream.h
b) stdio.h
c) stdlib.h
d) OOP can be used without using any header file
View Answer
14. Which of the two features match each other?
a) Inheritance and Encapsulation
b) Encapsulation and Polymorphism
c) Encapsulation and Abstraction
d) Abstraction and Polymorphism
View Answer
15. Which feature allows open recursion, among the following?
a) Use of this pointer
b) Use of pointers
c) Use of pass by value
d) Use of parameterized constructor

1. Which of the following is not type of class?
a) Abstract Class
b) Final Class

c) Start Class
d) String Class
View Answer
2. Class is pass by _____
a) Value
b) Reference
c) Value or Reference, depending on program
d) Copy
View Answer
3. What is default access specifier for data members or member functions declared within a class without any specifier, in C++?
a) Private
b) Protected
c) Public
d) Depends on compiler

4. Which is most appropriate comment on following class definition?

```
class Student
{
    int a;
    public : float a;
};
```

a) Error : same variable name can't be used twice
b) Error : Public must come first
c) Error : data types are different for same variable
d) It is correct

5. Which is known as a generic class?
a) Abstract class
b) Final class
c) Template class
d) Efficient Code
View Answer
6. Size of a class is _____
a) Sum of the size of all the variables declared inside the class
b) Sum of the size of all the variables along with inherited variables in the class
c) Size of the largest size of variable
d) Classes doesn't have any size
View Answer
7. Which class can have member functions without their implementation?
a) Default class
b) String class
c) Template class
d) Abstract class
View Answer

8. Which of the following describes a friend class?
a) Friend class can access all the private members of the class, of which it is a friend
b) Friend class can only access protected members of the class, of which it is a friend
c) Friend class don't have any implementation
d) Friend class can't access any data member of another class but can use it's methods
View Answer
9. What is the scope of a class nested inside another class?
a) Protected scope
b) Private scope
c) Global scope
d) Depends on access specifier and inheritance used
View Answer
10. Class with main() function can be inherited.
a) True
b) False
View Answer
11. Which among the following is false, for a member function of a class?
a) All member functions must be defined
b) Member functions can be defined inside or outside the class body
c) Member functions need not be declared inside the class definition
d) Member functions can be made friend to another class using the friend keyword

12. Which syntax for class definition is wrong?
a) class student{ };
b) student class{ };
c) class student{ public: student(int a){ } };
d) class student{ student(int a){} };
View Answer
13. Which of the following pairs are similar?
a) Class and object
b) Class and structure
c) Structure and object
d) Structure and functions
View Answer
14. Which among the following is false for class features?
a) Classes may/may not have both data members and member functions
b) Class definition must be ended with a colon
c) Class can have only member functions with no data members
d) Class is similar to union and structures
View Answer
15. Instance of which type of class can't be created?
a) Anonymous class
b) Nested class
c) Parent class
d) Abstract class

1. Which definition best describes an object?
a) Instance of a class
b) Instance of itself
c) Child of a class
d) Overview of a class
View Answer
2. How many objects can be declared of a specific class in a single program?
a) 32768
b) 127
c) 1
d) As many as you want
View Answer
3. Which among the following is false?
a) Object must be created before using members of a class
b) Memory for an object is allocated only after its constructor is called
c) Objects can't be passed by reference
d) Objects size depends on its class data members

4. Which of the following is incorrect?
a) class student{ }s;
b) class student{ }; student s;
c) class student{ }s[];
d) class student{ }; student s[5];
View Answer
5. The object can't be _____
a) Passed by reference
b) Passed by value
c) Passed by copy
d) Passed as function

6. What is size of the object of following class (64 bit system)?

```
class student {  int rollno;  char  name[20];  static int studentno;  };
```

a) 20
b) 22
c) 24
d) 28
View Answer
7. Functions can't return objects.
a) True
b) False

8. How members of an object are accessed?
a) Using dot operator/period symbol
b) Using scope resolution operator
c) Using member names directly

d) Using pointer only
View Answer
9. If a local class is defined in a function, which of the following is true for an object of that class?
a) Object is accessible outside the function
b) Object can be declared inside any other function
c) Object can be used to call other class members
d) Object can be used/accessed/declared locally in that function
View Answer
10. Which among the following is wrong?
a) class student{ }; student s;
b) abstract class student{ }; student s;
c) abstract class student{ }s[50000000];
d) abstract class student{ }; class toppers: public student{ }; topper t;
View Answer
11. Object declared in main() function _____
a) Can be used by any other function
b) Can be used by main() function of any other program
c) Can't be used by any other function
d) Can be accessed using scope resolution operator
View Answer
12. When an object is returned_____
a) A temporary object is created to return the value
b) The same object used in function is used to return the value
c) The Object can be returned without creation of temporary object
d) Object are returned implicitly, we can't say how it happens inside program
View Answer
13. Which among the following is correct?
a) class student{ }s1,s2; s1.student()=s2.student();
b) class student{ }s1; class topper{ }t1; s1=t1;
c) class student{ }s1,s2; s1=s2;
d) class student{ }s1; class topper{ }t1; s1.student()=s2.topper();
View Answer
14. Which among following is correct for initializing the class below?

```
class student{
int marks;
int cgpa;
public: student(int i, int  j){
marks=I;
cgpa=j
}
};
```

a) student s[3]={ s(394, 9); s(394, 9); s(394,9); };
b) student s[2]={ s(394,9), s(222,5) };
c) student s[2]={ s1(392,9), s2(222,5) };
d) student s[2]={ s[392,9], s2[222,5] };
View Answer

15. Object can’t be used with pointers because they belong to user defined class, and compiler can’t decide the type of data may be used inside the class.
a) True
b) False

1. Which feature of OOP indicates code reusability?
a) Encapsulation
b) Inheritance
c) Abstraction
d) Polymorphism
View Answer

2. If a function can perform more than 1 type of tasks, where the function name remains same, which feature of OOP is used here?
a) Encapsulation
b) Inheritance
c) Polymorphism
d) Abstraction
View Answer

3. If different properties and functions of a real world entity is grouped or embedded into a single element, what is it called in OOP language?
a) Inheritance
b) Polymorphism
c) Abstraction
d) Encapsulation

4. Which of the following is not a feature of pure OOP?
a) Classes must be used
b) Inheritance
c) Data may/may not be declared using object
d) Functions Overloading

5. Which among the following doesn’t come under OOP concept?
a) Platform independent
b) Data binding
c) Message passing
d) Data hiding

6. Which feature of OOP is indicated by the following code?

```
class student{  int marks;  };
class topper:public student{  int age;  topper(int age){ this.age=age; } };
```

a) Inheritance
b) Polymorphism
c) Inheritance and polymorphism
d) Encapsulation and Inheritance
View Answer

7. Which feature may be violated if we don’t use classes in a program?
a) Inheritance can’t be implemented
b) Object must be used is violated
c) Encapsulation only is violated
d) Basically all the features of OOP gets violated
View Answer
8. How many basic features of OOP are required for a programming language to be purely OOP?
a) 7
b) 6
c) 5
d) 4
View Answer
9. The feature by which one object can interact with another object is _____
a) Data transfer
b) Data Binding
c) Message Passing
d) Message reading
View Answer
10. _____ underlines the feature of Polymorphism in a class.
a) Nested class
b) Enclosing class
c) Inline function
d) Virtual Function
View Answer
11. Which feature in OOP is used to allocate additional function to a predefined operator in any language?
a) Operator Overloading
b) Function Overloading
c) Operator Overriding
d) Function Overriding
View Answer
12. Which among doesn’t illustrates polymorphism?
a) Function overloading
b) Function overriding
c) Operator overloading
d) Virtual function
View Answer
13. Exception handling is a feature of OOP.
a) True
b) False
View Answer
14. Which among the following, for a pure OOP language, is true?
a) The language should follow 3 or more features of OOP
b) The language should follow at least 1 feature of OOP
c) The language must follow only 3 features of OOP
d) The language must follow all the rules of OOP
View Answer

15. Does OOP provide better security than POP?
a) Always true for any programming language
b) May not be true with respect to all programming languages
c) It depends on type of program
d) It's vice-versa is true

1. Which among the following best describes polymorphism?
a) It is the ability for a message/data to be processed in more than one form
b) It is the ability for a message/data to be processed in only 1 form
c) It is the ability for many messages/data to be processed in one way
d) It is the ability for undefined message/data to be processed in at least one way
View Answer
2. What do you call the languages that support classes but not polymorphism?
a) Class based language
b) Procedure Oriented language
c) Object-based language
d) If classes are supported, polymorphism will always be supported
View Answer
3. Which among the following is the language which supports classes but not polymorphism?
a) SmallTalk
b) Java
c) C++
d) Ada

4. If same message is passed to objects of several different classes and all of those can respond in a different way, what is this feature called?
a) Inheritance
b) Overloading
c) Polymorphism
d) Overriding

5. Which class/set of classes can illustrate polymorphism in the following code?

```
abstract class student
{
   public : int marks;
   calc_grade();
}
class topper:public student
{
    public : calc_grade()
    {
        return 10;
    }
};
class average:public student
{
     public : calc_grade()
     {
```

```
        return 20;
    }
};
class failed{ int marks; };
```

a) Only class student can show polymorphism
b) Only class student and topper together can show polymorphism
c) All class student, topper and average together can show polymorphism
d) Class failed should also inherit class student for this code to work for polymorphism

6. Which type of function among the following shows polymorphism?
a) Inline function
b) Virtual function
c) Undefined functions
d) Class member functions
View Answer

7. In case of using abstract class or function overloading, which function is supposed to be called first?
a) Local function
b) Function with highest priority in compiler
c) Global function
d) Function with lowest priority because it might have been halted since long time, because of low priority
View Answer

8. Which among the following can't be used for polymorphism?
a) Static member functions
b) Member functions overloading
c) Predefined operator overloading
d) Constructor overloading
View Answer

9. What is output of the following program?

```
class student
{
    public : int marks;
        void disp()
        {
                cout<<"its base class"
        };
        class topper:public student
        {
                public :
                void disp()
                {
                        cout<<"Its derived class";
                }
        }
        void main() { student s; topper t;
        s.disp();
        t.disp();
}
```

a) Its base classIts derived class
b) Its base class Its derived class
c) Its derived classIts base class
d) Its derived class Its base class
View Answer
10. Which among the following can show polymorphism?
a) Overloading ||
b) Overloading +=
c) Overloading <<
d) Overloading &&
View Answer
11. Find the output of the following program.

```
class education
{
        char name[10];
        public : disp()
        {
                cout<<"Its education system";
        }
        class school:public education
        {
                public: void dsip()
                {
                        cout<<"Its school education system";
                }
    };
        void main()
        {
                 school s;
                 s.disp();
        }
}
```

a) Its school education system
b) Its education system
c) Its school education systemIts education system
d) Its education systemIts school education system
View Answer
12. Polymorphism is possible in C language.
a) True
b) False
View Answer
13. Which problem may arise if we use abstract class functions for polymorphism?
a) All classes are converted as abstract class
b) Derived class must be of abstract type
c) All the derived classes must implement the undefined functions
d) Derived classes can't redefine the function
View Answer
14. Which among the following is not true for polymorphism?
a) It is feature of OOP

b) Ease in readability of program
c) Helps in redefining the same functionality
d) Increases overhead of function definition always
View Answer
15. If 2 classes derive one base class and redefine a function of base class, also overload some operators inside class body. Among these two things of function and operator overloading, where is polymorphism used?
a) Function overloading only
b) Operator overloading only
c) Both of these are using polymorphism
d) Either function overloading or operator overloading because polymorphism can be applied only once in a program

1. Which among the following best describes encapsulation?
a) It is a way of combining various data members into a single unit
b) It is a way of combining various member functions into a single unit
c) It is a way of combining various data members and member functions into a single unit which can operate on any data
d) It is a way of combining various data members and member functions that operate on those data members into a single unit
View Answer
2. If data members are private, what can we do to access them from the class object?
a) Create public member functions to access those data members
b) Create private member functions to access those data members
c) Create protected member functions to access those data members
d) Private data members can never be accessed from outside the class

3. While using encapsulation, which among the following is possible?
a) Code modification can be additional overhead
b) Data member’s data type can be changed without changing any other code
c) Data member’s type can’t be changed, or whole code have to be changed
d) Member functions can be used to change the data type of data members

4. Which feature can be implemented using encapsulation?
a) Inheritance
b) Abstraction
c) Polymorphism
d) Overloading
View Answer
5. Find which of the following uses encapsulation?
a) void main(){ int a; void fun(int a=10; cout<<a); fun(); }
b) class student{ int a; public: int b;};
c) class student{int a; public: void disp(){ cout<<a;} };
d) struct topper{ char name[10]; public : int marks; }

6. Encapsulation helps in writing _____ classes in java.
a) Mutable

b) Abstract
c) Wrapper
d) Immutable
View Answer
7. Which among the following should be encapsulated?
a) The data which is prone to change is near future
b) The data prone to change in long terms
c) The data which is intended to be changed
d) The data which belongs to some other class
View Answer
8. How can Encapsulation be achieved?
a) Using Access Specifiers
b) Using only private members
c) Using inheritance
d) Using Abstraction
View Answer
9. Which among the following violates the principle of encapsulation almost always?
a) Local variables
b) Global variables
c) Public variables
d) Array variables
View Answer
10. Which among the following would destroy the encapsulation mechanism if it was allowed in programming?
a) Using access declaration for private members of base class
b) Using access declaration for public members of base class
c) Using access declaration for local variable of main() function
d) Using access declaration for global variables
View Answer
11. Which among the following can be a concept against encapsulation rules?
a) Using function pointers
b) Using char* string pointer to be passed to non-member function
c) Using object array
d) Using any kind of pointer/array address in passing to another function
View Answer
12. Consider the following code and select the correct option.

```
class student
{
     int marks;
     public : int* fun()
     {
          return &marks;
     }
};
main()
{
    student s;
    int *ptr=c.fun();
```

```
    return 0;
}
```
a) This code is good to go
b) This code may result in undesirable conditions
c) This code will generate error
d) This code violates encapsulation
View Answer
13. Consider the code and select the wrong choice.

```
class hero
{
     char name[10];
     public : void disp()
     {
          cout<<name;
     }
};
```
a) This maintains encapsulation
b) This code doesn’t maintain encapsulation
c) This code is vulnerable
d) This code gives error
View Answer
14. Encapsulation is the way to add functions in a user defined structure.
a) True
b) False
View Answer
15. Using encapsulation data security is _____
a) Not ensured
b) Ensured to some extent
c) Purely ensured
d) Very low

1. Which among the following best defines abstraction?
a) Hiding the implementation
b) Showing the important data
c) Hiding the important data
d) Hiding the implementation and showing only the features
View Answer
2. Hiding the implementation complexity can _____
a) Make the programming easy
b) Make the programming complex
c) Provide more number of features
d) Provide better features

3. Class is _____ abstraction.
a) Object
b) Logical

c) Real
d) Hypothetical

4. Object is _____ abstraction.
a) Object
b) Logical
c) Real
d) Hypothetical
View Answer
5. Abstraction gives higher degree of _____
a) Class usage
b) Program complexity
c) Idealized interface
d) Unstable interface

6. Abstraction can apply to _____
a) Control and data
b) Only data
c) Only control
d) Classes
View Answer
7. Which among the following can be viewed as combination of abstraction of data and code.
a) Class
b) Object
c) Inheritance
d) Interfaces
View Answer
8. Abstraction principle includes_____
a) Use abstraction at its minimum
b) Use abstraction to avoid longer codes
c) Use abstraction whenever possible to avoid duplication
d) Use abstraction whenever possible to achieve OOP
View Answer
9. Higher the level of abstraction, higher are the details.
a) True
b) False
View Answer
10. Encapsulation and abstraction differ as _____
a) Binding and Hiding respectively
b) Hiding and Binding respectively
c) Can be used any way
d) Hiding and hiding respectively
View Answer
11. In terms of stream and files _____
a) Abstraction is called a stream and device is called a file
b) Abstraction is called a file and device is called a stream
c) Abstraction can be called both file and stream

d) Abstraction can’t be defined in terms of files and stream
View Answer
12. If two classes combine some private data members and provides public member functions to access and manipulate those data members. Where is abstraction used?
a) Using private access specifier for data members
b) Using class concept with both data members and member functions
c) Using public member functions to access and manipulate the data members
d) Data is not sufficient to decide what is being used
View Answer
13. A phone is made up of many components like motherboard, camera, sensors and etc. If the processor represents all the functioning of phone, display shows the display only, and the phone is represented as a whole. Which among the following have highest level of abstraction?
a) Motherboard
b) Display
c) Camera
d) Phone
View Answer
14. Which among the following is not a level of abstraction?
a) Logical level
b) Physical level
c) View level
d) External level
View Answer
15. Using higher degree of abstraction _____
a) May get unsafe
b) May reduce readability
c) Can be safer
d) Can increase vulnerability

Passing and Returning Object with Functions

1. In how many ways can an object be passed to a function?
a) 1
b) 2
c) 3
d) 4
View Answer
2. If an object is passed by value _____
a) A new copy of object is created implicitly
b) The object itself is used
c) Address of the object is passed
d) A new object is created with new random values
View Answer
3. Pass by address passes the address of object _____ and pass by reference passes the address of the object _____
a) Explicitly, explicitly
b) Implicitly, implicitly

c) Explicitly, Implicitly
d) Implicitly, explicitly

4. If an object is passed by reference, the changes made in the function _____
a) Are reflected to the main object of caller function too
b) Are reflected only in local scope of the called function
c) Are reflected to the copy of the object that is made during pass
d) Are reflected to caller function object and called function object also
View Answer
5. Constructor function is not called when an object is passed to a function, will its destructor be called when its copy is destroyed?
a) Yes, depending on code
b) Yes, must be called
c) No, since no constructor was called
d) No, since same object gets used

6. When an object is returned by a function, a _____ is automatically created to hold the return value.
a) Temporary object
b) Virtual object
c) New object
d) Data member

7. Is the destruction of temporary object safe (while returning object)?
a) Yes, the resources get free to use
b) Yes, other objects can use the memory space
c) No, unexpected side effects may occur
d) No, always gives rise to exceptions
View Answer
8. How to overcome the problem arising due to destruction of temporary object?
a) Overloading insertion operator
b) Overriding functions can be used
c) Overloading parenthesis or returning object
d) Overloading assignment operator and defining copy constructor
View Answer
9. How many objects can be returned at once?
a) Only 1
b) Only 2
c) Only 16
d) As many as required
View Answer
10. What will be the output of the following code?

```
Class A
{
        int i;
        public : A(int n)
```

```
        {
                i=n; cout&lt;&lt;"inside constructor ";
        }
        ~A()
        {
                cout&lt;&lt;"destroying  "&lt;&lt;i;
        }
        void seti(int n)
        {
                i=n;
        }
        int geti()
        {
                return I;
        }
};
void t(A ob)
{
        cout&lt;&lt;"something ";
}
int main()
{
        A a(1);
        t(a);
        cout&lt;&lt;"this is i in main ";
        cout&lt;&lt;a.geti();
}
```

a) inside constructor something destroying 2this is i in main destroying 1
b) inside constructor something this is i in main destroying 1
c) inside constructor something destroying 2this is i in main
d) something destroying 2this is i in main destroying 1

View Answer

11. It is necessary to return the object if it was passed by reference to a function.
a) Yes, since the object must be same in caller function
b) Yes, since the caller function needs to reflect the changes
c) No, the changes are made automatically
d) No, the changes are made explicitly

View Answer

12. How many objects can be passed to a function simultaneously?
a) Only 1
b) Only an array
c) Only 1 or an array
d) As many as required

View Answer

13. If an object is passed by address, will be constructor be called?
a) Yes, to allocate the memory
b) Yes, to initialize the members
c) No, values are copied
d) No, temporary object is created

View Answer

14. Is it possible that an object of is passed to a function, and the function also have an object of same name?

a) No, Duplicate declaration is not allowed
b) No, 2 objects will be created
c) Yes, Scopes are different
d) Yes, life span is different

15. Passing an object using copy constructor and pass by value are same.
a) True
b) False

1. What is reference to an object?
a) It is address of an object
b) It is address of where the variables and methods of object are stored
c) It is pointer having address of an object
d) It is address of only variables and not the methods of an object
View Answer
2. Whenever an object is assigned to a variable or passed to a method _____
a) Actually the objects aren't used
b) Actually only the objects are used
c) Actually a pointer to an object is used
d) Actually copy of object is used
View Answer
3. Does use of object reference in assignment or passing means copy of the object is being used?
a) No, because the copy would create a new temporary variable
b) No, because the copy would not help to make changes to main object
c) Yes, because the reference directly means using address
d) Yes, because the reference directly means the constructors are involved

4. What will be the output of the following code?

```
import java.awt.Point;
class Testing
{
        public static void main(String[] args)
        {
                Point p1,p2;
                p1=new Point(100,100);
                p2=p1;
                p1.x=200;
                p1.y=200;
                System.out.println("Point 1: " + p1.x + ", " + p1.y);
                System.out.println("Point 2: " + p2.x + ", " + p2.y);
        }
}
```

a)

Point 1: 100, 100

Point 2: 200, 200

b)

Point 1: 200, 200

Point 2: 100, 100

c)

Point 1: 100, 100

Point 2: 100, 100

d)

Point 1: 200, 200

Point 2: 200, 200

5. Is there any explicit use of pointers in java that would be applicable to objects?
a) Yes, we use reference for this purpose
b) Yes, we use java arrays for this purpose
c) No, implicit pointing is possible
d) No, direct class names should be used
View Answer
6. Can a super class object give reference to a subclass method?
a) No, it is not possible
b) Maybe, it is possible
c) No, it's not possible
d) No, It's not possible in few cases only
View Answer
7. What will be the output of the following code?

```
import java.awt.Point;
class Testing
{
        public static void main(String[] args)
        {
                Point t1,t2,t3;
                t1=new Point(100,100);
                t2=t1;
                t3=t1;
                t1.x=200;
                t1.y=200;
                t2.x=300;
```

```
                t3.y=500;
                System.out.println("Point 1: " + p1.x + ", " + p1.y);
        }
}
```

a) Point 1: 200, 200
b) Point 1: 100,100
c) Point 1: 300, 300
d) Point 1: 300, 500

View Answer

8. If a reference variable is declared final then _____
a) It can never be reassigned to refer to a different object
b) It can be assigned to refer to any object anytime
c) It can never be assigned with any object
d) It can be assigned with 2 or more objects simultaneously

View Answer

9. Which of the members are referred by this pointer usually (Java)?
a) Members of class where this is used
b) Member of the parent class where this is used
c) Members that are passed as argument to the object
d) Pointers are not applicable in java

View Answer

10. How to refer to method of nested class?
a) enclosingClassObject.innerClassObject.method();
b) innerClassObject.method();
c) method();
d) depends on where the method is being called

View Answer

11. How many objects can be referenced from the same variables?
a) One at a time
b) Many at a time
c) Many using array name
d) 7 at max at same time

12. Java handles memory dynamically and references are deleted as soon as they are out of scope.
a) True
b) False

View Answer

13. Which among the following is true?
a) Object referencing refers to methods address
b) Object referencing refers to variable of object
c) Object referencing points to same address, if assigned by variables
d) Object referencing is used to point methods

View Answer

14. Invoking a method on a particular object is _____ sending a message to that object.
a) Different from
b) Same as

c) Somewhat similar
d) Part of
View Answer
15. Can reference to an object be returned from a method?
a) Yes, always possible
b) Yes, but not always
c) No, never possible
d) No, Not possible because referred element would be destroyed

1. What does memory allocation for objects mean?
a) Actual creation and memory allocation for object members
b) Creation of member functions
c) Creation of data members for a class
d) Actual creation and data declaration for object members
View Answer
2. Where is the memory allocated for the objects?
a) HDD
b) Cache
c) RAM
d) ROM
View Answer
3. When is the memory allocated for an object?
a) At declaration of object
b) At compile time
c) When object constructor is called
d) When object is initialized to another object

4. Using new is type safe as _____
a) It require to be specified with type of data
b) It doesn't require to be specified with type of data
c) It requires the name of data
d) It allocated memory for the data
View Answer
5. Which of the following function can be used for dynamic memory allocation of objects?
a) malloc()
b) calloc()
c) create()
d) malloc() and calloc()

6. How much memory will be allocated for an object of class given below?

```
class Test
{
        int mark1;
        int mark2;
        float avg;
        char name[10];
};
```

a) 22 Bytes
b) 24 Bytes
c) 20 Bytes
d) 18 Bytes
View Answer
7. Which keyword among the following can be used to declare an array of objects in java?
a) new
b) create
c) allocate
d) arr
View Answer
8. When is the memory allocated for an object gets free?
a) At termination of program
b) When object goes out of scope
c) When main function ends
d) When system restarts
View Answer
9. Which among the following keyword can be used to free the allocated memory for an object?
a) delete
b) free
c) either delete or free
d) only delete
View Answer
10. Which function is called whenever an object goes out of scope?
a) Destructor function
b) Constructor function
c) Delete function
d) Free function
View Answer
11. Which operator can be used to check the size of an object?
a) sizeof(objectName)
b) size(objectName)
c) sizeofobject(objectName)
d) sizedobject(objectName)
View Answer
12. The memory allocated for an object _____
a) Can be only dynamic
b) Can be only static
c) Can be static or dynamic
d) Can’t be done using dynamic functions
View Answer
13. If an object is declared in a user defined function _____
a) Its memory is allocated in stack
b) Its memory is allocated in heap
c) Its memory is allocated in HDD
d) Its memory is allocated in cache
View Answer

14. In java, _____ takes care of managing memory for objects dynamically.
a) Free collector
b) Dust collector
c) Memory manager
d) Garbage collector
View Answer
15. Which operator can be used to free the memory allocated for an object in C++?
a) Free()
b) delete
c) Unallocate
d) Collect

1. What is an array of objects?
a) An array of instances of class represented by single name
b) An array of instances of class represented by more than one name
c) An array of instances which have more than 2 instances
d) An array of instances which have different types
View Answer
2. Which among the following is a mandatory condition for array of objects?
a) All the objects should be of different class
b) All the objects should be of same program classes
c) All the objects should be of same class
d) All the objects should have different data
View Answer
3. What is the type of elements of array of objects?
a) Class
b) Void
c) String
d) Null

4. If array of objects is declared as given below, which is the limitation on objects?

```
Class_name arrayName[size];
```

a) The objects will have same values
b) The objects will not be initialized individually
c) The objects can never be initialized
d) The objects will have same data

5. Which is the condition that must be followed if the array of objects is declared without initialization, only with size of array?
a) The class should have separate constructor for each object
b) The class must have no constructors
c) The class should not have any member function

d) The class must have a default or zero argument constructor
View Answer
6. When are the array of objects without any initialization useful?
a) When object data is not required just after the declaration
b) When initialization of object data is to be made by the compiler
c) When object data doesn't matter in the program
d) When the object should contain garbage data
View Answer
7. If constructor arguments are passed to objects of array then _____ if the constructors are overloaded.
a) It is mandatory to pass same number of arguments to all the objects
b) It is mandatory to pass same type of arguments to all the objects
c) It is not mandatory to call same constructor for all the objects
d) It is mandatory to call same constructor for all the constructors
View Answer
8. How the objects of array can be denoted?
a) Indices
b) Name
c) Random numbers
d) Alphabets
View Answer
9. The objects in an object array _____
a) Can be created without use of constructor
b) Can be created without calling default constructor
c) Can't be created with use of constructor
d) Can't be created without calling default constructor
View Answer
10. The Object array is created in _____
a) Heap memory
b) Stack memory
c) HDD
d) ROM
View Answer
11. If an array of objects is of size 10 and a data value have to be retrieved from 5th object then _____ syntax should be used.
a) Array_Name[4].data_variable_name;
b) Data_Type Array_Name[4].data_variable_name;
c) Array_Name[4].data_variable_name.value;
d) Array_Name[4].data_variable_name(value);
View Answer
12. Can we have two dimensional object array?
a) Yes, always
b) Yes, only if primitive type array
c) No, since two indices are impossible
d) No, never
View Answer
13. From which index does the array of objects start?
a) 0

b) 1
c) 2
d) 3
View Answer
14. Two dimensional array can’t be initialized with the declaration.
a) True
b) False
View Answer
15. Is an array of characters always a string?
a) Yes, always
b) Yes, if each character is terminated by null
c) No, since each character is terminated by null
d) No, never

1. Which among the following is the main use of object?
a) To create instance of a function
b) To create instance of a program
c) To create instance of class
d) To create instance of structures
View Answer
2. Which among the following is not a property of an object?
a) Identity
b) Properties
c) Attributes
d) Names
View Answer
3. What is function object?
a) An object with a single function
b) An object with only functions
c) An object with more than one function
d) An object with no functions

4. Immutable object are used _____
a) To set up as a fixed state
b) To set up variable object
c) To set up an object of abstract class
d) To set up an object of derived class

5. Which object can be used to contain other objects?
a) First class object
b) Derived class object
c) Container object
d) Enclosure object

6. A factory object is used _____
a) To create new classes
b) To create new function

c) To create new data members
d) To create new objects
View Answer
7. What are singleton objects?
a) The only two objects of a class throughout the program
b) The only object of a class throughout the program
c) The objects that are alive throughout the program
d) The objects that are created and then deleted without use

8. Object cout and cin _____
a) Can be used directly with << and >> symbols respectively
b) Can be used directly with >> and << symbols respectively
c) Must be used as a function which accepts 2 arguments
d) Must be used as a function which accepts 3 arguments
View Answer
9. Objects type _____
a) Can be changed in runtime
b) Can't be changed in runtime
c) Can be changed in compile time
d) May or may not get changed
View Answer
10. An object can be used to represent _____
a) A real world entity
b) A real function
c) Some real data only
d) Some function only
View Answer
11. Objects can be used _____
a) To access any member of a class
b) To access only public members of a class
c) To access only protected members of a class
d) To access only private members of a class
View Answer
12. Which among the following is not a use of object?
a) Defining a member function
b) Accessing data members
c) Creating instance of a class
d) Using class members
View Answer
13. Which object can be used to access the standard input?
a) System.inner
b) cin
c) System.stdin
d) console.input
View Answer
14. A single object can be used _____
a) As only two class types at a time

b) As only three class types at a time
c) As only one class type at a time
d) As of as many class types as required
View Answer
15. If same object name is given to different objects of different class then _____
a) Its compile time error
b) Its runtime error
c) It's not an error
d) Program suns smooth

Abstract Class

1. Which among the following best describes abstract classes?
a) If a class has more than one virtual function, it's abstract class
b) If a class have only one pure virtual function, it's abstract class
c) If a class has at least one pure virtual function, it's abstract class
d) If a class has all the pure virtual functions only, then it's abstract class
View Answer
2. Can abstract class have main() function defined inside it?
a) Yes, depending on return type of main()
b) Yes, always
c) No, main must not be defined inside abstract class
d) No, because main() is not abstract function
View Answer
3. If there is an abstract method in a class then, _____
a) Class must be abstract class
b) Class may or may not be abstract class
c) Class is generic
d) Class must be public

4. If a class is extending/inheriting another abstract class having abstract method, then _____
a) Either implementation of method or making class abstract is mandatory
b) Implementation of the method in derived class is mandatory
c) Making the derived class also abstract is mandatory
d) It's not mandatory to implement the abstract method of parent class
View Answer
5. Abstract class A has 4 virtual functions. Abstract class B defines only 2 of those member functions as it extends class A. Class C extends class B and implements the other two member functions of class A. Choose the correct option below.
a) Program won't run as all the methods are not defined by B
b) Program won't run as C is not inheriting A directly
c) Program won't run as multiple inheritance is used
d) Program runs correctly

6. Abstract classes can _____ instances.
a) Never have

b) Always have
c) Have array of
d) Have pointer of
View Answer
7. We _____ to an abstract class.
a) Can create pointers
b) Can create references
c) Can create pointers or references
d) Can’t create any reference, pointer or instance
View Answer
8. Which among the following is an important use of abstract classes?
a) Header files
b) Class Libraries
c) Class definitions
d) Class inheritance
View Answer
9. Use of pointers or reference to an abstract class gives rise to which among the following feature?
a) Static Polymorphism
b) Runtime polymorphism
c) Compile time Polymorphism
d) Polymorphism within methods
View Answer
10. The abstract classes in java can _____
a) Implement constructors
b) Can’t implement constructor
c) Can implement only unimplemented methods
d) Can’t implement any type of constructor
View Answer
11. Abstract class can’t be final in java.
a) True
b) False
View Answer
12. Can abstract classes have static methods (Java)?
a) Yes, always
b) Yes, but depends on code
c) No, never
d) No, static members can’t have different values
View Answer
13. It is _____ to have an abstract method.
a) Not mandatory for an static class
b) Not mandatory for a derived class
c) Not mandatory for an abstract class
d) Not mandatory for parent class
View Answer
14. How many abstract classes can a single program contain?
a) At most 1
b) At least 1

c) At most 127
d) As many as required
View Answer
15. Is it necessary that all the abstract methods must be defined from an abstract class?
a) Yes, depending on code
b) Yes, always
c) No, never
d) No, if function is not used, no definition is required

1. A template class can have _____
a) More than one generic data type
b) Only one generic data type
c) At most two data types
d) Only generic type of integers and not characters
View Answer
2. Which among the following is the proper syntax for the template class?
a) template <typename T1, typename T2>;
b) Template <typename T1, typename T2>;
c) template <typename T> T named(T x, T y){ }
d) Template <typename T1, typename T2> T1 named(T1 x, T2 y){ }
View Answer
3. Can default arguments be used with the template class?
a) Yes, in some special cases
b) Yes, always
c) No, it must satisfy some specific conditions first
d) No, it can’t be done

4. What is the syntax to use explicit class specialization?
a) template <int> class myClass<>{ }
b) template <int> class myClass<int>{ }
c) template <> class myClass<>{ }
d) template <> class myClass<int>{ }
View Answer
5. Which is the most significant feature that arises by using template classes?
a) Code readability
b) Ease in coding
c) Code reusability
d) Modularity in code

6. A template class defines the form of a class _____ it will operate.
a) With full specification of the data on which
b) With full specification of the functions on which
c) Without full specification of the data on which
d) Without full specification of the functions on which
View Answer
7. What are the two specializations of I/O template classes in C++?
a) 16-bit character and wide characters

b) 8-bit character and wide characters
c) 32-bit character and locale characters
d) 64-bit characters and locale characters
View Answer
8. Can typeid() function be used with the object of generic classes?
a) Yes, only if default type is given
b) Yes, always
c) No, generic data can't be determined
d) No, never possible
View Answer
9. The _____ class is a specialization of a more general template class.
a) String
b) Integer
c) Digit
d) Math
View Answer
10. How is function overloading different from template class?
a) Overloading is multiple function doing same operation, Template is multiple function doing different operations
b) Overloading is single function doing different operations, Template is multiple function doing different operations
c) Overloading is multiple function doing similar operation, Template is multiple function doing identical operations
d) Overloading is multiple function doing same operation, Template is same function doing different operations
View Answer
11. What if static members are declared inside template classes?
a) All instances will share the static variable
b) All instances will have their own static variable
c) All the instances will ignore the static variable
d) Program gives compile time error
View Answer
12. What is the output of following program?

```
template <typename T>
void test(const T&x)
{
    static int count = 0;
    cout &lt;&lt; "x = " &lt;&lt; x &lt;&lt; " count = " &lt;&lt; count
&lt;&lt; endl;
    ++count;
    return;
}

void main()
{
    test<int> (2);
    test<int>(2);
    test<double>(2.2);
}
```

a)

x = 2 count = 0

x = 2.2 count = 0

x = 2.2 count = 0

b)

x = 2 count = 0

x = 2 count = 0

x = 2.2 count = 0

c)

x = 2 count = 0

x = 2 count = 1

x = 2.2 count = 0

d)

x = 2 count = 0

x = 2 count = 1

x = 2.2 count = 2

13. If template class is defined, is it necessary to use different types of data for each call?
a) No, not necessary
b) No, but at least two types must be there
c) Yes, to make proper use of template
d) Yes, for code efficiency
View Answer
14. How many generic types can be given inside a single template class?
a) Only 1
b) Only 3
c) Only 7

d) As many as required
View Answer
15. Template classes must have at least one static member.
a) True
b) False

1. Which is most appropriate definition of a base class?
a) It is parent of any of its derived class
b) It is child of one of the parent class
c) It is most basic class of whole program
d) It is class with maximum number of members
View Answer
2. A base class is also known as _____ class.
a) Basic
b) Inherited
c) Super
d) Sub
View Answer
3. An abstract class is always a _____ class.
a) Base
b) Derived
c) Template
d) Nested

4. How many base classes can a single class inherit in java?
a) 1
b) 2
c) 3
d) As many as required
View Answer
5. How to make a derived class a base class?
a) Change name of the class
b) Use keyword base
c) Make a class derive from it
d) Can’t be done

6. If a base class is being derived by two other classes, which inheritance will that be called?
a) Single
b) Multiple
c) Multi-level
d) Hierarchical
View Answer
7. Which among the following must be in a base class?
a) Data members
b) Member functions
c) Access specifiers

d) Nothing
View Answer
8. Which type of members can’t be accessed in derived classes of a base class?
a) Protected
b) Private
c) Public
d) All can be accessed
View Answer
9. If a class is enclosing more than one class, than it can be called as base class of those classes.
a) True
b) False
View Answer
10. Base class have _____ of abstraction.
a) Higher degree
b) Lower degree
c) Intermediate
d) Minimum degree
View Answer
11. Always the base class constructors are called _____ constructor of derived class.
a) Before
b) After
c) Along
d) According to priority of
View Answer
12. Can we call methods of base class using the constructor of the derived class?
a) Yes, always
b) Yes, but not always
c) No, never
d) No, but we can call in some cases
View Answer
13. If a base class is inherited from another class and then one class derives it, which inheritance is shown?
a) Multiple
b) Single
c) Hierarchical
d) Multi-level
View Answer
14. How many base classes can a single derived class have in C++?
a) 1
b) 2
c) 3
d) As many as required

15. If a base class is added with a few new members, its subclass must also be modified.
a) True
b) False

1. Which among the following is best definition of a derived class?
a) A child class
b) A class which inherits one or more classes
c) A class with keyword derived
d) A class with more than one constructor
View Answer
2. Which among the following is inherited by a derived class from base class?
a) Data members only
b) Member functions only
c) All the members except private members
d) All the members of base class
View Answer
3. If there is a derived class in a program, how many classes must be in that program?
a) 1
b) 2
c) 3
d) 4

4. Which members can never be accessed in derived class from the base class?
a) Private
b) Protected
c) Public
d) All except private
View Answer
5. How many types of inheritance are supported in C++ for deriving a class?
a) 1
b) 2
c) 3
d) 4

6. How many derived class can a single base class have?
a) 1
b) 2
c) 3
d) As many are required
View Answer
7. Which among the following is correct?
a) Friend function of derived class can access non-private members of base class
b) Friend function of base class can access derived class members
c) Friend function of derived class can access members of only derived class
d) Friend function can access private members of base class of a derived class
View Answer

8. If a class is being derived using more than two base classes, which inheritance will be used?
a) Single
b) Multi-level
c) Hierarchical
d) Multiple
View Answer
9. Derived class is also known as _____ class.
a) Subclass
b) Small class
c) Big class
d) Noticeable class
View Answer
10. If class A is derived from another derived class B which is derived from class C, which class will have maximum level of abstraction?
a) Class A
b) Class B
c) Class C
d) All have the same level of abstraction
View Answer
11. If base class is an abstract class then derived class _____ the undefined functions.
a) Must define
b) Must become another abstract class or define
c) Must become parent class for
d) Must implement 2 definitions of
View Answer
12. How many classes can be derived from a derived class?
a) Only 1
b) At most 1
c) At least 1
d) As many as required
View Answer
13. The members of a derived class can never be derived.
a) True
b) False
View Answer
14. Which feature is not related to the derived classes among the following?
a) Inheritance
b) Encapsulation
c) Run time memory management
d) Compile time function references
View Answer
15. Deriving a class in such a way that that the base class members are not available for further inheritance is known as _____
a) Public inheritance
b) Protected inheritance

c) Protected or private inheritance
d) Private inheritance

1. Which among the following is the main characteristic of class?
a) Inheritance
b) Encapsulation
c) Polymorphism
d) Object creation
View Answer
2. To group all the brands of cars, what should be used?
a) Class
b) Structure
c) Function
d) Object
View Answer
3. If a class have two data members and two functions to add those two numbers and to subtract them, which among the following is most efficient if the programmer wants to implement multiplication too?
a) Define a public function which multiplies two numbers
b) Define a public function that returns values of two data members
c) Define a private function which multiplies two numbers
d) Define a private function that returns values of two data members

4. If a database have to be maintained using OOP, to store the details of each employee in a company, which would be the best choice among the following?
a) Define a class to store details of each employee
b) Define a structure to store details of each employee
c) Define separate variable for each detail
d) Define a generic type to store string and number details

5. Which class represents the most abstracted information?
a) Nested
b) Derived
c) Enclosed
d) Base

6. Which among the following is an advantage of using classes over structures of C?
a) Functions are restricted
b) Functions can’t be defined
c) Functions can also be encapsulated
d) Functions can have more security
View Answer
7. Which among the following is a feature of class?
a) Object orientation
b) Procedure orientation
c) Both object and procedure orientation

d) Neither object nor procedure orientation
View Answer
8. Class is _____ of an object.
a) Basic function definition
b) Detailed description with values
c) Blueprint
d) Set of constant values
View Answer
9. In which case the classes can be used to make the more efficient program?
a) To define a function that is called frequently in a program
b) To structure data that is most similar
c) To group the most similar data and operations
d) To define a blueprint that shows memory location of data
View Answer
10. What is the use of inbuilt classes?
a) Provide predefined data
b) Provide predefined functions
c) Provide predefined data and functions
d) Provide predeclared data to be overridden
View Answer
11. Which feature is exhibited by the inbuilt classes?
a) Code reusability
b) Code efficiency
c) Code readability
d) Code reusability, efficiency and readability
View Answer
12. Why do we use user defined classes?
a) To design a user intended code
b) To model real world objects
c) To design the interfaces
d) To model the functions
View Answer
13. Why do classes use accessor methods?
a) To make public data accessible to client
b) To make public data private to client
c) To make private data public for whole program
d) To make private data accessible to the client
View Answer
14. Why do classes use mutator methods?
a) Allows client to modify the program
b) Allows client to modify/write the private members
c) Allows servers to access all the private data
d) Allows servers to access only protected members
View Answer
15. Which among the following is the most abstract form of class?
a) Cars
b) BMW cars

c) Big cars
d) Small cars