

Unit-1

1) What is Class?

Ans: Class is a collection of data and methods.

2) What is Object?

Ans: Objects are the basic runtime entities in an object-oriented system.

3) What is Encapsulation?

Ans: The wrapping up of data and methods into a single unit is known as encapsulation.

4) What is data hiding?

Ans: The insulation of the data from direct access by the program is called data hiding.

5) What is Inheritance?

Ans: Inheritance is the process by which object of one class acquire the properties of object of another class.

6) What is Polymorphism(Overloading)?

Ans: Share a same name but perform a different task is known as Polymorphism.

OR

Polymorphism means ability to take more than one form.

7) List application of OOP.

Ans:

1. Real-Time systems
2. Object-oriented databases
3. Hypertext, hypermedia and expertext
4. AI and expert systems
5. Neural networks and parallel programming
6. Decision support and office automation systems

8) Who developed JAVA and in which year?

Ans: Java was developed by Sun Microsystems in 1991.

9) Which is the most striking feature of java?

Ans: Platform-neutral language is the most striking feature of java.

10) Write down full form of JDK, JSL, JVM & API.

Ans: JDK : Java Development Kit

JSL : Java Standard Library

JVM : Java Virtual Machine

API : Application Programming Interface

11) List out various tools of JDK.

Ans:

1. Appletviewer
2. javac
3. java
4. javap
5. javah
6. javadoc
7. jdb

12) Which text editor is used for create java program?

Ans: Notepad or Wordpad

13) When we get byte code in java?

Ans: We get byte code after compiling the java program.

14) What is the use of JVM?

Ans : JVM is used for execute Byte code.

15) What is the extension of java Program?

Ans : The extension of java program is **.java**.

16) Which method is used for print any message on the console?

Ans: **print()** and **println()** is used for print any message on the console.

17) What is Tokens?

Ans: Smallest individual units in a program are known as tokens.

18) List out types of tokens.

Ans:

1. Reserved Keywords
2. Identifiers
3. Literals
4. Operators
5. Separators

19) What is Keywords?

Ans: Keywords are an essential part of a language definition. Keyword is a reserve word.

20) What is Identifiers?

Ans: Identifiers are used for naming classes, methods, variables, objects, labels, packages and interfaces in a program.

21) Write down rules of Identifiers.

Ans:

1. They can have alphabets, digits, and underscore and dollar sign characters.
2. They must not begin with a digit.
3. Uppercase and lowercase letters are distinct.
4. They can be any length.

22) What is Literals?

Ans: Literals in Java are a sequence of characters (digits, letters and other characters) that represent constant values to be stored in variables.

23) List types of literals.

Ans:

1. Integer Literals
2. Floating_point Literals
3. Characters Literals
4. String Literals
5. Boolean Literals

24) What is Operators?

Ans: An operator is a symbol that takes one or more arguments and operators on them to produce a result.

25) What is Separators?

Ans: Separators are symbols used to indicate where groups of code are divided and arranged.

26) What is Variable?

Ans: A variable is an identifier that denotes a storage location used to store a data value.

27) Write down rules for naming variable?

Ans:

1. They must not begin with a digit.
2. Uppercase and lowercase are distinct. This means that the variable Total is not the same as total or TOTAL.
3. It should not be a keyword.
4. White space is not allowed.
5. Variable names can be of any length.

28) What is Data types?

Ans: Data types specify the size and type of values that can be stored.

29) What is the size of float & double data type?

Ans: float : 4 bytes, double 8 bytes.

30) Write down syntax of type casting.

Ans: type variable-1=(type) variable-2

31) What is a Command line argument?

Ans: Command line arguments are parameters that are supplied to the application program at the time of invoking it for execution.

32) Which are the selection statements in java?

Ans:

1. Simple If statement
2. If...else statement
3. Nesting of If...else statement
4. The else if ladder
5. The switch statement

33) Which are the iteration statements in java?

Ans:

1. The while statement
2. The Do...While statement
3. The for statement

34) Which are the jump statements in java?

Ans:

1. Break
2. Continue

35) What is Array?

Ans: An array is a group of contiguous or related data items that share a common name.

36) Which command is used for compile and run the java program?

Ans: Compile : javac

Run : java

Unit-2

1) In java, data items are called 1 and the functions are called 2.

Ans: 1. Fields 2. Methods

2) Write down syntax of defining a class.

Ans: class classname [extends superclassname]

 {
 [fields declaration;]
 [methods declaration;]
 }

3) Write down syntax of method definition.

Ans: type methodname (parameter list)

 {
 method-body
 }

4) Write down syntax of creating object in java.

Ans: classname objectname = new classname();

5) How can we access class members in java?

Ans: We can access class members using object and the dot operator.

6) What is method overloading?

Ans: In Java, it is possible to create methods that have the same name, but different parameter lists and different definitions. This is called method overloading.

7) Why we create variable as static?

Ans: Static variables are used when we want to have a variable common to all instances of a class.

8) How can we called static method?

Ans: We can called static method by using class name without using the objects.

9) List several restrictions of static methods.

Ans:

1. They can only call other static methods.
2. They can only access static data.
3. They cannot refer to **this** or **super** in any way.

10) What is nesting of methods?

Ans: A method can be called by using only its name by another method of the same class. This is known as nesting of methods.

11) What is constructor?

Ans: A constructor is a 'special' method whose task is to initialize the objects of its class. It is special because its name is the same as the class name.

12) When constructor is invoked?

Ans: The constructor is invoked whenever an object of its associated class is created.

13) What is default constructor?

Ans: A constructor that accepts no parameters is called the default constructor.

14) What is parameterized constructor?

Ans: The constructors that can have arguments are called parameterized constructors.

15) Write down characteristics of constructor?

Ans:

- ✓ They are invoked automatically when the objects are created.
- ✓ They do not have return types, not even void and therefore they cannot return values.
- ✓ Like other Java methods, they can have default arguments.
- ✓ Constructors can not be virtual.

16) What is constructor overloading?

Ans: When more than one constructors is defined in a class, then we say that the constructor is overloaded.

17) What is Inheritance?

Ans: The mechanism of deriving a new class from an old one is called **inheritance**.

18) List types of Inheritance?

Ans:

1. Single Inheritance(Only one super class)
2. Multiple Inheritance(Several super classes)
3. Hierarchical Inheritance(One super class, many subclasses)
4. Multilevel Inheritance(Derived from a derived class)

19) Java does not _____ Inheritance?

Ans: Multiple Inheritance.

20) Write down syntax for defining a subclass.

Ans: class subclassname extends superclassname
 {
 variable declaration;
 methods declaration;
 }

21) What is method overriding?

Ans: Method defining in the subclass that has the same name, same arguments and same return type as a method in the superclass. This is known as method overriding.

22) What is the use of final keyword?

Ans: If we want to prevent the class, method and variable in the subclass for security reasons than we can define it as final using **final** keyword.

23) What is the use of finalizer method?

Ans: The garbage collector cannot free the resources like objects may hold other non-object resources such as file descriptors or window system fonts. In order to free these resources we must use a finalizer method.

24) Write down conditions for satisfying abstract class

Ans:

1. We cannot use abstract classes to instantiate objects directly.
Example: `Shape s=new Shape();`
is illegal because **Shape** is an abstract class.
2. The abstract methods of an abstract class must be defined in its subclass.
3. We cannot declare abstract constructor or abstract static methods.

25) What is the purpose of access modifiers(Visibility Controls)?

Ans: We have seen that the variables and methods of a class are visible everywhere in the program.

It may be necessary in some situations to restrict the access to certain variables and methods from outside the class.

We can achieve this in Java by applying visibility modifiers to the instance variables and methods.

26) List types of visibility modifiers.

Ans: public
 private
 protected

Unit-3

1) What is Interface?

Ans: An interface is basically a kind of class. Like classes, interfaces contain methods and variables.

2) What is the main difference between class and Interface?

Ans: The main difference between class and interface is that interfaces define only abstract methods and final fields while class define any type of methods and fields.

3) Write down syntax for defining an Interface.

```
Ans:  interface Interfacename
      {
          variable declaration;
          methods declaration;
      }
```

4) Can we define method in interface? Justify your answer.

Ans: No, We can't define method in interface. Because the methods in an interface are abstract in nature.

5) Can we declare the object of Interface?

Ans: No, We can't declare the object of Interface.

6) Which access specifier is only used with Interface?

Ans: public

7) Which keyword is used for implementing Interface?

Ans: implements

8) Which access specifier is only used with Interface?

Ans: public

9) List out frequently used java API packages.

Ans: lang, util, io, awt, net, applet, etc...

10) The packages are organized in a _____ structure.

Ans: Hierarchical Structure

11) All class name begin with _____ case letter.

Ans: Uppercase

12) Which statement is used to search a list of packages for a particular class?

Ans: import statement

13) Write down general form of import statement for searching a class.

Ans: `import package1 [.package2] [.package3].classname;`

14) Multiple import statements are possible in a single program or not?

Ans: Yes, multiple import statements are possible in a single program.

15) How can we hide classes from accessing from outside of the package?

Ans: We can hide classes from accessing from outside of the package by declaring classes as "not public".

16) What is multitasking?

Ans: several programs are running in operating system simultaneously. This ability is known as multitasking.

17) What is multithreading?

Ans: Multithreading is a conceptual programming concept where a program(process) is divided into two or more subprograms(processes), which can be implemented at the same time in parallel.

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19) What is multi threaded program?

Ans: A program that contains multiple flows of control is known as multithreaded program.

20) Who handles the switching of control between the threads?

Ans: JAVA Interpreter

21) Which method is the heart and soul of any thread?

Ans: run()

22) Which method is used for initiating the run() method?

Ans: start()

23) Which methods cause the thread to go into the blocked state?

Ans: sleep(), suspend(), wait().

24) Which method is used for stopping the thread?

Ans: stop()

25) List out five states of thread life cycle.

Ans:

1. Newborn state
2. Runnable state
3. Running state
4. Blocked state
5. Dead state

26) What is the use of yield() method?

Ans: If we want to leave control to another thread to equal priority before its turn comes, we can do so by using the **yield()** method.

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28) What is the difference between Array and Vector?

Ans: In Array We can't store values of mixed datatypes in single array variable. But in Vector we can store multiple types of value in single vector variable.

Unit-4

1) What is Exception?

Ans: An exception is a condition that is caused by a run-time error in the program.

2) What is Exception Handling?

Ans: If we want the program to continue with the execution of the remaining code, then we should try to catch the exception object through by the error condition and then display an appropriate message for taking corrective actions. This task is known as exception handling.

3) How can we handle Exception in JAVA?

Ans: We can handle exception in JAVA by using Try and Catch block.

4) List out types of Exception.

Ans: 1. Checked Exception

2. Unchecked Exception

5) Who handled Unchecked Exception?

Ans: JVM handled Unchecked Exception.

6) Write down syntax of error handling code.

Ans:

```
.....  
.....  
try  
{  
    statement;    //generates an exception  
}  
catch(Exception-type e)  
{  
    Statement;    //processes the exception  
}  
.....  
.....
```

7) Is it possible to have more than one catch statement with one try block?

Ans: Yes, It is possible to have more than one catch statement with one try block.

8) What is finally statement?

Ans: Finally statement can be used to handle an exception that is not caught by any of the previous catch statements, finally block can be used to handle any exception generated within a try block.

9) What is Applet?

Ans: Applets are small java programs that are primarily used in Internet computing. Applet can perform arithmetic operations, display graphics, play sounds, accept user input, create animation and play games.

10) What is Local Applet?

Ans: An applet developed locally and stored in a local system is known as a **local applet**.

11) What is Remote Applet?

Ans: A **remote applet** is that which is developed by someone else and store on a remote computer connected to the internet.

12) Write down full form of URL.

Ans: Uniform Resource Locator

13) Where we can run applet?

Ans: Either the java appletviewer or a java-enabled browser

14) List out Applet life cycle state.

Ans: 1. Born on Initialization State

2. Running State

3. Idle State

4. Dead or Destroyed State

15) When applet will go into the dead state?

Ans: When we quit browser than applet will go into the dead state.

16) What is Executable applet?

Ans: Executable applet is nothing but the .class file of the applet, which is obtained by compiling the source code of applet.

17) Write down minimum three attributes of <Applet...> tag.

Ans: code, height, width.

18) Which command is used to run Applet in Applet Viewer?

Ans: appletviewer

19) What is the difference between JAVA-enabled Web browser and applet viewer?

Ans: If we use a Java-enabled Web browser, we will be able to use the entire Web page containing the applet.

If we use the appletviewer tool, we will only see the applet output.

20) Which tag is used to supply user defined parameter to an applet?

Ans: <param...>

21) Every Applet has its own area of the screen known as _____?

Ans: Canvas

22) List out any five method of Graphics class.

Ans: drawLine(),drawOval(),drawRect(),fillOval(),fillPolygin().