**1. Introduction to Java**

1. **What is the most important feature of java?**
2. **What do you mean by platform independent?**
3. **What is a JVM?**
4. **Are JVMs platform independent?**
5. **What is difference between a JDK and a JVM**
6. **What is pointer and does java support pointers?**
7. **What is JIT compiler?**

**2.1 Java Basic Programming Elements**

1. **Why we need object in java?**
2. **What is an Object?**
3. **What is an instance?**
4. **Difference between class, interface and enum?**
5. **Why enum?**
6. **Is main method mandatory for compilation or execution?**
7. **What is mean by user defined method and predefined method?**
8. **What is mean by user defined class and predefined class?**
9. **Does jvm execute user defined methods automatically?**
10. **Definition of main method?**
11. **How many user defined methods can we define in class?**
12. **What is an order of execution of all user defined methods?**
13. **What is difference between System.out.println() and System.out.print()**
14. **Why Coding slandered?**
16. **If we don’t follow coding standard and Naming conventions will it lead to**

**Compile time error or Runtime error?**

1. **What is base class of all classes?**
2. **Does java support multiple inheritance?**
3. **Is array primitive data type?**
4. **What is difference between path and Class path?**
5. **What are local variables?**
6. **How to define constant variable in Java?**
7. **Should main() method be compulsory declared in all java classes?**
8. **What is return type of main() method?**
9. **Why is main() method declared static?**
10. **What is argument of main method?**
11. **Can a main () method be overloaded?**
12. **Can a main method be declared as final?**
13. **Does and static order of public and static declaration matter on main() method?**
14. **Can s source file contain more than one class declaration?**
15. **What is package?**
16. **Which package is imported by default?**
17. **Can a class declared as protected?**

**2.2 –Data Type and Literals**

1. **Need of datatype?**
2. **Different types of datatype?**
3. **Definition of datatypes ?**
4. **Why 8 primitive types?**
5. **What is variable?**
6. **Limitation of primitive types?**
7. **Why class keyword and what can we do using class?**

**2.3 Operators**

**34) Explain Type of cast operator**

**35) Explain conditional operators?**

**36) Explain List of Arithmetic operators**

**37) Explain list of relation operators**

**38) Explain Instance of operator**

**39) Explain Bitwise operator**

**40) Explain New Operator**

**41) Explain [ ] operator**

**2.4 Conditional Statement**

**42) What is difference between while and do-While loop?**

**43) When do we use continue and when we use break statements?**

**3.1 Access Modifiers**

**44) Definition of accessibility modifier?**

**45) Different levels of accessibility permission levels?**

**45) Accessibility modifier keywords**

**46) What are the accessibility modifier keywords allowed for class?**

**47) What are the accessibility modifier allows for class members including**

**Inner class**

**48) What is default access modifiers of an interface and its members?**

**49) What is default access modifiers of class and its members?**

**50) Why private and protected modifiers are not allowed for outer class?**

**51) What are different types of access modifiers in Java?**

**3.2 Wrapper Classes**

**52) What is Wrapper classes?**

**53) What is mutable object and immutable object?**

**54) What is basic difference between String and StringBuffer Object?**

**55) What are methods in Objects?**

**56) Default import statement in java**

**57) Why we need Wrapper classes**

**58) Do I need import java. lang package any time? Why?**

**59) Can I import same package /class twice? Will the JVM load the package**

**twice at runtime?**

**3.3 Packages**

**60) Do I need to import java.lang packaged any time? Why?**

**61) Can I import same package/class twice? Will the JVM load the package twice at runtime?**

**62) Does importing a package imports the sub packages as well? E.g. Does importing com.bob.\* also import com.bob.code.\*?**

**63) What is Java package and how is it used?Or Explain Usage of Java packages?**

**64) Are the imports checked for validity at compile time? E.g. Will the code containing an import such java.lang.BoB compile?**

**3.4 Variable And Type of Variables**

**66) What is transient variable?**

**67) What is purpose of finalization?**

**68 What is difference between final,finally,finalization? In java?**

**69) What is difference field variable and a local variable?**

**70) What is difference between static and non static variable?**

**71) What is default of an object reference declared as an instance variable?**

**72) Can top level class be private or protected?**

**73) What type of parameter passing Java Supports?**

**74) Primitive data types are passed by reference or by value?**

**75) Objects are passed by value or by reference?**

**76) Is java pure object oriented language?**

**77) Is default a keyword?**

**78) What is default value of local variable?**

**77) What is static variable?**

**78) What is ‘this’ in java?(It is keyword that refers to the current object)**

**79) What is final variable?**

**80) What is final variable?**

**81) What is transient keyword?**

**3.5 Methods and Types of Methods**

**82) What is an order of execution of non-static methods?**

**83) Where non-static method are stored and executed?**

**84) Who will place this keyword in calling non-static members from other nonstatic members?**

**85) Who will fill this keyword with current object reference?**

**3.6 Constructor**

**86) Can we Define a method with same class name?**

**87) How Compiler and jvm differentiate constructor and method definitions if both have same class name?**

**88) How Compiler and jvm can differentiate constructor and method invocations if both have same class name?**

**89) Can we declare constructor as private?**

**90) Is constructor definition mandatory in class?**

**91) Why should we overload constructor?**

**92) What jvm does internally when an object is created?**

**93) Can we pass Object as an argument to a method?**

**94) What is the modifier not allowed for a method?**

**95) What if the main method is declared as private?**

**96) What if the static modifier is removed from the signature of the main method?**

**97) What if I write static public void instead of public static void?**

**98) What if do not provide the string array in main method?**

**99) Can I have multiple main methods in the same class?**

**100)Do I need to import java.lang package any time ? Why?**

**101) Can I import same package/class twice? Will jvm load the package twice at runtime?**

**102) What is purpose of garbage collection in java and when is it used?**

**103) What is native method**

**104) What is access scope of protected method?**

**105) What are methods in Object class?**

**106) What is impact of declaring method as final?**

**107) Can there be abstract class with no abstract method in it?**

**108) Can we execute a program without main () method?**

**109) What is purpose of toString () method in java?**

**3.7 JVM Architecture**

**110) Explain the processes performed by java virtual machine i.e. loading, linking, initialization?**

**111) Explain how to read line of input at time?**

**112) What is difference between JDK ,JRE and JVM?**

**113) How many types of memory areas are allocated by JVM?**

**114) What is JIT compiler?**

**115) What is platform?**

**116) What is main difference between java platform and other platforms?**

**117) What gives java its ‘Write once an run ‘anywhere’ nature?**

**118) Is empty .java file name a valid source file name?**

**119) will the string array of main method be empty or null,if I do not provide any arguments on the command line?**

**120) What happens if I Write static void instead of public static void ?**

**121) What is default value of the local variables?**

**122) What is difference between object oriented programming language and Object based programming language?**

**123) What will be the initial value of an object reference which is defined as an instance variable?**

**124) How to increase the heap memory of the java?**

**125) Name three JVMs?**

**3.8 II Classes and types of classes**

**126) Definition and need of concrete method and class?**

**127) What are the modifiers allowed for concrete class?**

**128) What are members allowed for concrete class?**

**129) Inheritance with concrete class?**

**130) How can jvm loads super class when sub class is loaded?**

**131) How jvm can create class non static variable memory and initialize it in subclasses object?**

**132) When Should developer place super() call explicitly ?**

**133) Why cannot we print ‘super’ keyword like ‘this’ keyword?**

**134 How may referenced variable are available in a nonstatic method of class?**

**135) What is data type of this and super variable?**

**136) How many times superclass is loaded into JVM?**

**137) When a method must be overridden?**

**138) When should we overload methods?**

**139) What is advantage of overloading?**

**140) When method is considered as overloaded method?**

**141) When method should be defined as final?**

**142) What is difference between private and final method?**

**143) When class should be final?**

**144) Why abstract class cannot be instantiated?**

**145) Who will provide implementation for abstract method?---**

**146) What type members can we define in an abstract class?**

**147) How can we execute static and nonstatic members of abstract class ?**

**148) Definition of interface and need of an interface**

**150) what is need of an interface when we have abstract class to define abstract method**

**151) Without having any methods inside marker interface how will objects get ability?**

**152) why does jvm provide required ability in marker interface?**

**153) Difference between Abstract class and Interface?**

**154) Can we declare abstract method as static?**

**155) Can we declare abstract method as final?**

**156) Can we declare abstract method as final?**

**3.8 III Inner Classes**

**157) Definition of inner class**

**158) Need of an inner class**

**159) Types of inner classes and explanation**

**160) Difference between general class and anonymous inner classes**

**161) Difference between normal Inner class and static Inner class**

**4-OOPs**

1. **Is Object and instance same?**
2. **Why Oops?**
3. **Definition of OOPs principles**
4. **What are building blocks of OOPs language**
5. **Explain class ,object ,instance and their relationship**
6. **Definition of Class,Object,instance and their relationship**
7. **Why static and nonstatic variable**
8. **Definition of Encapsulation**
9. **How can we develop Encapsulation in java?**
10. **Definition of inheritance**
11. **What happens if we develop inheritance**
12. **Why Java does not support multiple inheritance?**
13. **Definition of polymorphism**
14. **Types of polymorphism**
15. **Steps to create real world objects in programming**

**5 Exception Handling**

1. **Definition and need of Exception**
2. **Difference between normal execution and execution with exception**
3. **Need of Exception Handling**
4. **Difference between java.lang.Error and java.lang.Exception**
5. **Exception handling using try/catch block**
6. **Multiple catch and rules**
7. **Use of finally block**
8. **Inner try blocks and its execution control flow**
9. **Explain types of exception**
10. **Creating Custom Exception**
11. **Explain Throwable class hierarchy**
12. **Explain Exception versus Error**
13. **How can we handle Exception in java**

**6 Arrays**

1. **Array Definition?**
2. **Need of an array**
3. **Data type of array**
4. **Array limitation**
5. **Finding length of an array**
6. **Storing and retrieving array elements**
7. **Difference in storing primitive and reference type of data in arrays**
8. **Passing array as method argument and return type**
9. **Types of array base on dimension**

**7 Strings**

1. **What is String in Java? Is String a data type?**
2. **Can we call class as data type?**
3. **What is object reference?**
4. **What is String constant pool(string literal pool)**
5. **Explain difference between following statements**

**String s =”World”**

**String s= new String (“world”);**

1. **How to concat two different String?**
2. **What do you mean by immutability?**
3. **What is difference between String and StringBuffer classes?**
4. **There are any other classes in java that is immutable?**
5. **What is StringTokenizer class?**
6. **There is any alternative of StringTokenizer?**
7. **What is difference between StringBuffer and StringBuilder?**
8. **How to convert object to String?**
9. **How to convert Integer to String?**
10. **Output of following Program**

**public class Test**

**{**

**public static void main (String []args)**

**{**

**String s=”Hello”**

**String s1= new String (“Hello”);**

**System. Out .println (“s=s1”+(s==s1));**

**System.out.println (“s.equals (s1)” +(s.equals(s1)) );**

**}**

**}**

1. **String is Thread safe or not?**
2. **What is difference between compareTo and equals method?**
3. **What is String pool in java?**
4. **Is String thread-safe in java?**
5. **Difference between String and StringBuffer in java?**
6. **How can we create immutable class in java**
7. **Explain toString() method**
8. **How can we create immutable class in java?**
9. **Advantage of the toString() method**

**8 Collection Framework**

**1) What are the Collection API?**

**2) What is an Iterator?**

**3) How do you traverse through a collection using its Iterator?**

**4) How do you remove elements during Iteration?**

**5) What is the ListIterator?**

**6) What is List Interface?**

**7) What are the main implementation of List interface?**

**8) What are the advantage of ArrayList over Arrays?**

**9) Difference between ArrayList and Vector?**

**10) How to obtain Array from an ArrayList?**

**9 Generics**

**1) What is generics in java? What are the advantage of using Generics?**

**2) How Generics Works in Java? What is type erasure?**

**3) What is bounded and unbounded wild cards in Generics?**

**4) What is difference between List<?extendsT> and List <? super T>?**

**5) How to write Generic method Which accept generic argument and return generic Type?**

**6) How to write parameterized class in Java using Generics?**

**7) Can we pass List <String> to a method which accepts List<Object>**

**10 Multithreading with JVM Architecture**

**1) What is multithreading?**

**2) What is thread?**

**3) What is difference between Preemptive scheduling and time slicing?**

**4) What does join () method mean?**

**5) What is difference between wait () and sleep () method?**

**6) Is possible to start thread twice?**

**7) What about the daemon threads? Checking above theory.**

**8) Can we make the user thread as daemon thread if thread is started?**

**9) What is shutdown hook?**

**10) When should we interrupt a thread?**

**11) What is synchronization?**

**12) What is purpose of Synchronization block?**

**13) Can Java Object be locked down go exclusive use by given thread?**

**14) What is static synchronization?**

**15) What is difference between notify () and notify All()?**

**16) What is deadlock?**

**11 Types of Object & Garbage Collection**

**1) What is the purpose of garbage collection in Java, and when is it used?**

**2) Does garbage Collection guarantees a program to not run out of memory?**

**3) How can you force garbage collection?**

**4) What comes in your mind when someone mention shallow copy in java?**

**5) How can you minimize the need of garbage collection and make the memory use more effective?**

**6) Can an Objects finalize () method be invoked while it is reachable?**

**7) Can an unreachable object become reachable again?**

**8) What is garbage collection?**

**9) What is go () method?**

**10) What is purpose of finalize method?**

**11) Can unreferenced objects be referenced again?**

**12) What kind of thread is garbage collector thread?**

**13) What is difference between final, finally and finalize?**

**14) What is purpose the runtime class?**

**15) By runtime: get Runtime ().exec() method.**

**12) Networking**

**1) The API doesn’t isn’t any constructor for InetAddress-How do i create InetAddress instance?**

**2) Is it possible to get the Local host IP?**

**3) What is the Factory Method?**

**4) What is difference between TCP and UDP?**

**5) What is proxy server?**

**6) What are the seven layers of OSI Model?**

**7) What does Transport Layers Do?**

**8) What is DHCP?**

**9) What is SMTP?**

1. **What is difference between**