# Java Programming

## Question Bank

## UNIT I
## PART - A

1. What are OOP Principles?
2. What is Encapsulation?
3. What is Polymorphism?
4. What is Inheritance?
5. What are the features of Java Language?
6. What is the need for Java Language?
7. What is platform independency?
8. How java supports platform independency?
9. Why Java is important to Internet?
10. What are the types of programs java can handle?
11. What are the advantages of Java Language?
12. Give the contents of Java Environment (JDK).
13. What is JVM?
14. What is Byte code in Java?
15. Give any 4 difference between C and Java.
16. Give any 4 difference between C++ and Java.
17. What are the different types of comment symbols in Java?
18. What are the data types supported in Java?
19. Define Type conversion.
20. Define Type casting
21. What is Type Promotion?
22. State the rules for Type Promotion.
23. What is the difference between a char in C/C++ and char in Java ?
24. How is constant defined in Java?
25. What is the use of final keyword?
26. What are the different types of operators used in Java?
27. What is labeled break?
28. What is the use of each control structure?
29. What is the need for static variables?
30. What is the need for static methods?
31. Compare static constants and final constants.
32. Why is main method assigned as public?
33. Why main method is assigned as static?
34. What are the types of variables Java handles?

35. What are the relationships between classes?
36. What is the general form of class?
37. What is the use of new keyword?
38. If objA1 is an object of class A created using new keyword, what does the statement A objA2=objA1; mean?
39. State the difference between Parameter and Argument?
40. What is constructor?
41. What is the difference between constructor and method?
42. What is the use of this keyword?
43. What are destructors?
44. How is object destruction done in Java?
45. What is Garbage collection?
46. What is the use of Finalize method?
47. Compare Garbage collection and Finalize method.
48. What is method overloading?
49. What are the two ways of passing arguments?
50. What is nested class? Mention its types.
51. State the properties of Nested class?
52. What is the use of super keyword?
53. Define method overriding.
54. What is Dynamic method dispatch?
55. Compare Run-time polymorphism and Compile-time polymorphism.
56. Differentiate overloading and overriding.
57. What is an abstract class?
58. What is the need for abstract class?
59. What is Command Line Arguments.

**PART – B**

1. Explain OOP Principles.
2. Explain the features of Java Language.
3. Compare and contrast Java with C.
4. Compare and contrast Java with C++.
5. Explain various control flows with example.
6. Explain constructors with example.
7. Explain method overloading with example.
8. Explain static method with example.
9. Explain the concept of inheritance and its types.
10. Explain method overriding with example.
11. Illustrate with examples: static and final.

12. Explain abstract class with example.
13. Develop a message abstract class which contains playMessage abstract method. Write a different subclasses like Text-Message, VoiceMessage and FaxMessage classes for to implementing the playMessage method.

## UNIT II
## PART - A

1. What are the different access specifiers available in Java?
2. What is the default access specifier in Java?
3. What is a package in Java?
4. Name some Java API Packages.
5. Name some JavaDoc Comments.
6. Define an interface.
7. What is the need for an interface?
8. What are the properties of an interface?
9. Differentiate Abstract classes and interface.
10. What are Checked and UnChecked Exception?
11. What are checked exceptions?
12. What are runtime exceptions?
13. What is the difference between error and an exception?
14. What classes of exceptions may be caught by a catch clause?.
15. If I want an object of my class to be thrown as an exception object, what should I do?
16. How to create custom exceptions?
17. What are the different ways to handle exceptions?
18. What is the purpose of the finally clause of a try-catch-finally statement?
19. What is the basic difference between the 2 approaches to exception handling. Is it necessary that each try block must be followed by a catch block?
20. How does Java handle integer overflows and underflows?
21. Describe synchronization in respect to multithreading.
22. Explain different way of using thread?
23. What is synchronization and why is it important?
24. When a thread is created and started, what is its initial state?
25. What are synchronized methods and synchronized statements?
26. What is daemon thread and which method is used to create the daemon thread?
27. What method must be implemented by all threads?
28. What kind of thread is the Garbage collector thread?
29. What is a daemon thread?
30. What is a thread?

31. What are the ways in which you can instantiate a thread?
32. What are the states of a thread?
33. What are the threads will start, when you start the java program?
34. What are the different identifier states of a Thread?
35. Why do threads block on I/O?

## PART – B

1. Discuss in detail the access specifiers available in Java.
2. Explain the different visibility controls and also compare with each of them.
3. Explain Packages in detail.
4. Define an interface. Explain with example.
5. Develop an Interest interface which contains simpleInterest and compInterest methods and static final field of Rate 25%. Write a class to implement those methods.
6. Develop a Library interface which has drawbook(), returnbook() (with fine), checkstatus() and reservebook() methods. All the methods tagged with public.
7. Develop an Employee class which implements the Comparable and Cloneable interfaces. Implement the sorting of persons (based on name in alphabetical). Also implement the shallow copy (for name and age) and deep copy (for DateOfJoining).
8. Explain exception hierarchy.
9. Explain the different ways to handle exceptions
10. Explain exception handling with example
11. Explain the different states of a thread.
12. Explain thread synchronization with examples.
13. Describe multi threading.
14. Explain Deadlocks.
15. Explain Interthread Communication

## UNIT III
## PART - A

1. What is a String in Java?
2. What is the difference between a String in Java and String in C/C++?
3. Name a few String methods.
4. What is the difference between Concat method and + operator to join strings?
5. What is String Buffer?
6. How does String class differ from the String Buffer class?
7. Name some methods available under String Buffer class.
8. Output of some expressions using String methods.
9. How will you initialize arrays?
10. What is arraycopy method? Explain with syntax.
11. What are the methods under Util.Arrays?
12. Use the array sort method to sort the given array.
13. List some Library functions.
14. List the Math functions.
15. Name the Process methods available in Java.
16. Define Cloning.
17. List the methods available in cloning.
18. Define system functions.
19. List some methods available in system class.
20. Compare the length and capacity functions.

## PART - B

1. Explain the methods available under String and String Buffer Class.
2. Explain Character Extraction methods with example.
3. Explain String Comparison functions with example.

4. Explain Library functions with example.
5. Explain math functions.
6. Write a program to convert radians to degree using math function.
7. Explain the methods available in Process class with example program.
8. Explain Cloning with example.
9. Explain System functions with example.

## UNIT IV
## PART – A

1. Define Collections Framework.
2. Define Collection algorithm.
3. Define Collection Classes and Collection Interface
4. What are the two types of Collections
5. Define List interface.
6. Define Set interface.
7. Define Sorted Set interface.
8. Define Navigable Set interface.
9. Define Queue interface.
10. Define Deque interface.
11. Define Array List class.
12. Define Linked List class.
13. Define Hash Set class.
14. Define Linked Hash Set class.
15. Define Tree Set class.
16. Define PriorityQueue class.
17. Define ArrayDeque class.
18. Define EnumSet class.
19. Define Iterator.
20. List out the methods in ListIterator.
21. Define Comparator.
22. Define Legacy classes and interfaces
23. Define Vector

24. What are the three data members of vector
25. How to access elements in Collection?
26. Define Parsing
27. Define String Tokenizer
28. List out the String Tokenizer constructors
29. List out the methods defined by String Tokenizer
30. Define Stream classes
31. Define Byte stream and character streams

## PART - B

1. Explain Collection classes with example.
2. Explain Collection interfaces with example.
3. Explain Iterators and User defined collections with example.
4. Explain String Tokenizer with example.
5. Explain Comparators and Legacy classes & interfaces.
6. Explain Map interfaces.
7. Explain Byte Streams.
8. Explain Character Streams.
9. Explain the file concepts with example.

## UNIT V
## PART – A

1. State the difference between AWT and Swing.
2. What is JFC?
3. List the hierarchy of Java Swing classes.
4. List the commonly used methods of Component class.
5. List out the Components and Containers of Swing.
6. Define Event Handling.
7. List out the Event Classes.
8. Define Action Event class.
9. Define Adjustment Event class.
10. Define Component Event class.
11. Define Container Event class.
12. Define Focus Event class.
13. Define Input Event class.
14. Define Item Event class.
15. Define Key Event class.
16. Define Mouse Event and MouseWheel Event class.
17. Define Text Event class.
18. Define Window Event class.
19. List out the Event Listener Interfaces.
20. Define Adapter class

## PART – B

1. Explain Event handling with examples.
2. Explain Event Classes with an example.
3. Explain Event Listener Interfaces with an example.
4. Explain the Hierarchy of Java Swing classes
5. What are the swing components? Explain.
6. Write a simple Java Swing program and explain the Swing concept