Question Bank.  
Core Java:

1)what is jdk ,jvm , jre ? explain in detail.

2)what is WORA principle in java ?

3)explain JIT compiler.

4)why is java platform independent but OS dependent?

5)Explain class, Object with real life analogy.

6)What are class loaders and types in java?

7)Explain the OOPS concepts in java.

8) difference between abstraction and encapsulation.

9)Explain keywords: static,final, finally, finalize.

10)what are static blocks in java ?

11)Constructor overloading and Constructor injection.

12)Types of constructor.

13)Constructor with different access modifiers.(can a constructor be final ?)

14)Access modifiers and their order from least to most secure.

15)what are packages in java ?

16)Abstract class vs. Interface in java (till java 1.7)

17)default and static methods in Java Interface.

18)backward compatibility in java.

19)Functional Interface .

20)Creating instance(?) of functional interface with the anonymous inner class in java.

21)creating instance of abstract class with anonymous inner class in java.

22)Partial and full abstraction.

23)This vs Super constructor call.

24)Various aspects of runtime and compile time polymorphism.

25)Polymorphic object ,uses and significance.

Exceptions:

26)does finally block always executes ?

27)Explain Exception hierarchy in java.

28)Exception vs Error.

29)Explain the concept of propagation of exception in java.

30)Throw vs. Throws.

31)Custom Exceptions in Java.(with default messages and custom messages.)

32)Explain the hierarchy of collection in Java.

Collection API:

33)Arraylist vs.Linkedlist and performance issues.

34)ArrayList vs Vector.

35)Internal Implementation of Linkedlist and ArrayList.

36)Contract of .equals.

37).hashcode and .equals and it’s significance in collection.

38) Treeset vs. Treemap()

39)natural ordering and custom Ordering.(Comparable vs. Comparator)

40)what’s hashing algorithm ?

41)hash collison and hash buckets.

42)What is multithreading?

43)what is thread lifecycle ?

44)What is deep and shallow copy?

45) write the code for deep copy using: Clonebale Interface and Copy Constructor.

Multithreading:

46)what is synchronized keyword?

47) explain object/instance level intrinsic locks.

48)explain class level locks.

49)Difference between synchronized method and synchronized block.

When to use what and what is the difference between them?

50)What is thread lifecycle and what are the different ways to initialize/Create the Thread?

51)what is mutual synchronization and exclusive synchronization?

52)how does a static keyword behaves in the multithreading ?

53)explain the mutual synchronization in the Java Multithreading.

54)explain wait(),notify () and notifyall()

55)give a program for consumer producer using the respective methods.

56) how will you make an arraylist as immutable ?

57)what are the intrinsic locks in java ?

58)explain the instance lock,This level lock and the class level lock in the java multithreading ?

59)create a multithreaded environment to display the dead lock in the action in java.

60)Explain thread pool, thread starvation and Thread lifecycle.

61)What are memory leaks in java and provide the ways to mitigate the same.

JAVA 8:

62)what are functional interfaces in Java 8?

63)explain : predicate, consumer, supplier and Function in the Java 8.

64)Anonymous inner class vs static inner class vs instance inner class.

65)lambda expressions and their significance.

66)need for the block level synchronization vs the method level synchronization.

67) class loaders and their significance.

68)how to optimize the performance of the collection class using the hash code for the better performance.

69)Ways to achieve the immutability of the collection classes.

70)hashtable vs hashmap vs hashset.

71) List and name their significance for Java Functional Interfaces.

72)what is consumer Interface explain it’s working and significance with an example.

73)what is Predicate and explain it’s working with an example.

74)what is supplier interface and lazy loading in the supplier functional interface.

75)what is Function interface in Java 8 ? explain it’s mechanism and working along with the methods it has.

76) what is stream Api?

77)what are the terminal and intermediate operations in the stream api ?

78)explain the internal working of Foreach() in Stream api.

79)explain the internal working of the Map() in stream api.

80)Explain the precedence/ advantages of Stream api over the Traditional ways to process the Data Structures/Collections.

81)Explain the working of Count() in Stream API.

82)Explain the working of Peek() and Foreach() in the stream API?

83) How does Distinct() works internally?

84)Explain the concept of Accumulator in the reduce() method?

85)what is BinaryOperator Interface and Bifunction Interface?

86)Explain the internal working of the filter() method in stream Api.

87)Limit and Skip and their use cases in the Stream Api?

88) Logical Problems on Limit and Skip ,

Second Highest, Third Highest and so on.

89)Explain the terminal operations in the Stream API.

90) what are Collectors?

91)what is the collect method in Stream API?

92)Give the Custom Collector and explain the 5 methods inside the Collector I/F.

93)give the information on the Arrays and Collections.

94)Explain the method reference and it’s types.

95)Static Method reference vs. Instance method Reference vs. Constructor Reference.

96)Create the custom functional I/F and integrate them with the Method references.

97)Difference between .getclass() and class.forName() in the Reflection API?

98)write a program to invoke the private method and change the value of the private variable in the class using reflection API.

99)Execute the Java class without the main method? Is it possible?

100) Collection API . Stream API . JDBC API . Reflection API .

Explain the above API’s in detail.

101)Explain the GC in the Java.

102) Explain the younger Generation and Older Generation Objects in the JAVA GC.

103) Var and Yeild keywords in Java.

104) What are major steps in the JDBC api ?

105) Explain the significance of the Class.forname() step in JDBC?

106)what are the major exceptions you encounter in the JDBC ?

107)Explain the classes and Interfaces involved in the JDBC.

108) Role of autoclosable in the try with resource.

109)What is batch processing in JDBC?

110) what is autocommit in jdbc ?

111) how will you prove the **All or Nothing principle** of the JDBC?

112)Demonstrate the role of rollback() in the JDBC with the programm.

113) what is executebatch() in the JDBC and what will be the output of the same.

114)what is callable in JDBC ?

115) what is preparecall in the JDBC?  
116) explain the significance of the “{}” in the preparecall.

117) Implement the multithreading in the JDBC with wait(), notify() and notifyall() with mutual synchronization.

118) explain the role of Driver in JDBC.

119)Resultset and it’s methods.

120)Give a note on the best practices in JDBC.

**To be continued….**