1. What is an abstract class?

   An abstract class is a class that cannot be instantiated.

2. What is static in java?

   Static means one per class, not one for each object no matter how many instances of a class might exist.

3. What is an immutable object?

   An immutable object is an object whose state cannot be modified after it is created.

4. What is the difference between checked and Unchecked Exceptions in Java ?

   Checked exceptions are exceptions which need to be handled explicitly. These are the ones which require a *try-catch* block or a *throws* keyword. Unchecked exceptions are exceptions which have no obligation to be handled.

5. Does it matter in what order catch statements for FileNotFoundException and IOExceptipon are written?

   Yes, it does. The FileNoFoundException is inherited from the IOException. Exception's subclasses have to be caught first.

6. What is serialization ?

   serialization is the process of converting an object into a sequence of bits so that it can be stored in a file.

7. What is a transient variable?

   A transient variable is a variable that may not be serialized.

8. Describe the principles of OOPS.

   Polymorphism, Inheritance and Encapsulation.

9. What's the difference between a queue and a stack?

   A stack is a last-in first-out list and a queue is a first-in first-out list.

10. What is a parameterized class?

    A class that has type parameters.

11. True or false: Set<Object> is a super type of Set<String>.   **False.**

12. True or false: Object[] is a super type of String[].   **True.**

13. What types cannot be used as type arguments?   **Primitive types.**

14. True or false: Generics is a compile time feature?   **True.**

15. What is a polymorphic assignment?

Assigning a subclass object to a super class variable.

16. True or false: Polymorphism is a compile time feature? **False.**

17. What is the difference between Swing and Awt?

AWT are heavy-weight componenets. Swings are light-weight components. Hence swing works more efficiently than AWT.

18. What is a stream and what are the types of streams?

A stream is a sequence of units of data coming from or going to an I/O device. There are two types of stream, text & binary.

19. What method is used to specify a container's layout?   **setLayout()**

20. What event results from the clicking of a button?   **ActionEvent.**

21. What is a layout manager and name four different types of layout managers available in java AWT?

Layout managers are AWT software components which have the ability to lay out widgets/components by their relative positions. E.g. BorderLayout, CardLayout, GridLayout, and FlowLayout.

22. What is design by contract? What is a precondition? What is a postcondition? What is a class invariant?

Design by Contract is an approach to designing computer software. It prescribes that software designers should define formal, precise and verifiable interface specifications for software components.

A precondition specifies what a method required to be true when the method is called.

A postcondition speciftes what must be true when a method is finished.

A class invariant is an assertion describing a property which holds for all instances of a class.