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1) What is an object?
      An object is an entity, which consist of attributes, behaviors and qualities that describe the object.

2) What is a class?
      A class represents a collection of attributes and behaviors of object. It is the class from which individual objects created.
For example:-
  Bicycle is a class that contain the following attributes
  Speed
  Gear

3) What is OOAD?
      OOAD stands for Object Oriented analysis and design. It is a methodology use to analyze, design and develop applications. It visualizes the class and the objects.

4) What are the advantages of OOAD?
      * Reusability
      * Maintainability
      * Increase the performance of the system.

5) What is Data Abstraction?
      It is a process of listing the essential features, without implementation details. Data abstraction is nothing but the extraction of the information which is required and ignoring the other information.

6) What is Data Encapsulation?
      Data encapsulation or data hiding is a function that keeps the implementation details hidden to the user. The user of the application is allowed to perform only limited task with the class members that are hidden.

7) What is the difference between data abstraction and information hiding?
      Abstraction mainly focus on the outside view of the object whereas encapsulation prevents the user from seeing the inside view where the properties and behavior of the abstraction is implemented.

8) Why is java not 100% pure OOPS language?
      Java doesn't support 100% pure OOPS concept, since it support primitive datatype like int, long, byte etc, these are not objects.

9) Qualities for a program to be 100% OOPS language?
      Encapsulation/Data Hiding
      1. Polymorphism
      2. All predifined types are objects
      3. Inheritance
      4. Operations performed through messages to objects

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      5. Abstraction
      6. datatypes are to be objects.

10) What is early binding?

Early binding or static type or static binding is assigning the value of the variable during design phase. Early binding instruct the compiler to allocate space and perform other task before the application starts executing.

11) What are the disadvantages of threads?

      o The main disadvantage of using thread is that it is operating system dependent. It require to follow CPU cycle that various from system to system.
      o Deadlock occurs

12) Why is java case sensitive?

Java is platform independent language. It is widely used for developing code which contains different variables and hence java is case sensitive.

13) What is singleton class?

A class which can create a single object at a time is called class. The object is accessible by the java virtual machine. It creates a single instance for the class

14) Objects are passed by value or by reference?

In java objects are passed by value. Since, the object reference value is passed both the original and the copied parameter will refer to the same object.

15) What is serialization?

It is a method which saves the object state by converting to byte stream.

16) What is externalizable interface?

Externalizable interface controls the serialization mechanism. It consist of two methods readexternal and writeexternal. It helps to customize the serialization process.

17) What are the different types of inner classes?

      * Member classes.
      * Anonymous classes.
      * Nested top-level classes.
      * Local classes.

18) What are wrapper classes?

Wrapper class represents a base class for the data source. It allows the primitive datatype to be accessed as objects.

19) What are the different ways to handle exception?

      * By placing the desired code in the try block and allow the catch block to catch the exception.
      * Desired exception can be placed in throw clause.

20) Is it necessary that each try block must be followed by a catch block?

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It is not essential that try block should be followed by catch block.

21) What is the difference between instanceof() and isInstance()?
   instanceof() is used to see whether the object can be typecast without making use of the exception.
   isInstance() is to check whether the specified object is compatible with the class that represent the object.

22) How can you achieve multiple inheritance in java?
   Multiple inheritance in java implemented in similar to the C++ with one difference the inherited interface should be abstract.

23) What is the difference between == and equals methods?
   '==' is used to check whether two numbers are equal
   'Equals' is used to check whether two strings are equal.

24) What are java beans?
   Java bean is a platform independent and portable. It helps to develop code that is possible to run in any environment

25) What is RMI?
   RMI stands for remote method invocation; it enables the developer to create application based on java, in which the java objects are invoked by java virtual machine.s

 Part 2

1. How does a try statement determine which catch clause should be used to handle an exception?

   When an exception is thrown within the body of a try statement, the catch clauses of the try statement are examined in the order in which they appear. The first catch clause that is capable of handling the exception is executed. The remaining catch clauses are ignored.

2. Is Empty .java file a valid source file?

   An empty java file is perfectly a valid java source file.

3. Is delete a keyword in Java?

   Delete is not a keyword in Java. Java does not make use of explicit destructors the way C++ does.

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4. How many objects are created in the following piece of code?

   MyClass c1, c2, c3;

   c1 = new MyClass ();

   c3 = new MyClass ();

   c1 and c3 are the two objects created. The c2 is only declared and not initialized.

5. What will be the output of the following statement?

   System.out.println ("1" + 5);

   Output:-

   15.

6. What will be the default values of all the elements of an array defined as an instance variable?

   If the array is of primitive data type then the elements of the array is initialized to default value. If the array is of reference type then it is initialized to NULL.

7. What are the different scopes for java variables?

   The different scopes for java variables are as follows:-

   Local

   Instance

   Static

8. What is the default value of the local variables?

   When the local variables are not initialized explicitly the java compiler will not compile. And it will not initialize any default value for these local variable.

9. Can main method be declared final?

   The main method can be declared final with the addition of public static.

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10. Does Java provide any constructor to find out the size of an object?

There is no sizeof operator in java. It is not possible to determine the size of the object directly in java.

11. What is the Map interface?

Map is an object which helps to map the keys to values. It is not possible to have duplicate keys. It is essential that each key should map to a one value.

Three Map implementations are

Hashmap

LinkedHashmap

Treemap

12. What is collection Views?

Collection view is a metho that is used to view map as a collection. This can be done in three ways:-

Values

Keyset

Entryset

13. What is multimaps?

Multimap is also like map which map key to multiple values. But there is no separate interface for multimap in Java since it is used quiet often. It's much more simple to use map whose values to list instance as a multimap.

14. What is the SimpleTimeZone class?

It is a subclass of Time zone which represent time zone that could be used with Gregorian calendar. It doesn't handle any changes.

public class SimpleTimeZone

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extends TimeZone

15. Is &&= a valid Java operator?

no &= is a valid operator not &&=

16. Is "abc" a primitive value?

Abc is a string object it is not primitive value.

17. What modifiers can be used with a local inner class?

Some of the modifiers that can be used in the local inner class are as follows:-

Final

Abstract

Static modifier

18. Can an unreachable object become reachable again?

An unreachable object becomes reachable if the objects finalize() method is invoked, the object performs operation that causes the object to accessible.

19. What happens when you add a double value to a String?

When double value is added to the string it becomes a string object.

20. What is Layout Managers?

It is an object that implements LayoutManager interface and also determines the position and size of the components within a container.

Some of the task associated with layout manager are as follows:-

Adding space between components

Adding components to container

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Setting up layout manager

21. What is a compilation unit?

A compilation unit is composed of two parts: an interface and an implementation. The interface contains a sequence of specifications, just as the inside of a sig … end signature expression. The implementation contains a sequence of definitions, just as the inside of a struct … end module expression

22. Which package is always imported by default?

"Java.lang" is the package that imported by default.

23. What is numeric promotion?

Numeric promotion is a conversion of numeric type of smaller to a larger numeric type,so that integer and floating-point operations may take place. In numerical promotion, byte, char, and short values are converted to int values. The int values are also converted to long values, if necessary. The long and float values are converted to double values, as required.

24. Which arithmetic operations can result in the throwing of an ArithmeticException?

Integer / and % can result in the throwing of an ArithmeticException.

25. What is the ResourceBundle class?

It contains locale specific objects. If a program requires locale specific resources then the program can load resource bundle that is appropriate for the current user.

Advantage:-

Make it localized, and can be translated into different languages.

Modification can be done easily.

Part 3

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1) What is JVM?

JVM enables to convert the source code into the code which can be executed in the system. This makes the java independent of the platform

2) Name four container classes?

* Dialog

* FileDialog

* Panel

* Frame

3) What is JAR file?

JAR stands for java archive, it is used to compress a class of file.

4) What is typecasting?

Typecasting converts entity of one type to entity of another type. It is very important while developing applications.

Casting is of two types:-

1. downcasting

2. Upcasting

5) What is serialization and deserialization?

It is process of representing the state of an object in byte stream. Process of restoring the object is done be deserialization.

6) What is vector class?

Vector class provides the capability to implement array of objects.

7) What is JVM and its use?

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The most important feature of Java is platform independent, this is supported by JVM. It converts the machine code into bytes. It is the heart of the java language and a structure programming language.

8) What are the difference between java and C++?

Java adopts byte code whereas C++ doesn't.

C++ supports destructor whereas java doesn't support.

Multiple inheritance possible in C++ but not in java.

9) Difference between swing and AWT?

AWT is works faster then swing since AWT is heavy weight components.AWT consist of thin layer of code, swing is larger and of higher functionality.

10) If a variable is declared as private, where may the variable be accessed?

When the variable is declared private, it can be accessed only inside the class in which it is defined.

11) What is final?

A final class cannot be sub classed neither extended. The variables cannot change the value.

12) What is static in java?

Static methods are implicitly final, their methods are not attached to an object rather it is attached to a class.

13) Is null a keyword?

NULL is not a keyword.

14) What is garbage collection?

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When an object is no longer used, java implicitly recalls the memory of the object. Since java doesn't support destructor it makes use of garbage collector in the place of destructor.

15) What is the resourceBundle class?

It is used to store the local specific resources inorder to tailor the appearance.

16) What is tagged interface?

Tagged interface is similar to the serializable interface, it instruct the complier to perform some activity.

17) What is overriding?

When any class use the same name, type and arguments as that of the methods in the super class then the class can override the super class method.

18) What is referent?

Referent variable are constant variable it cannot be modified to refer to any other object then the one with it was initialized.

19) What is the method to implement thread?

Thread can be implemented by run() method

20) What is the difference between primitive scheduling and time slicing?

In case of primitive scheduling the task with highest priority is performed until it enters the dead state. In case of time slicing it performs the task for sometime and then enter the ready state.

21) What are different types of access modifiers?

public: accessible from anywhere.

private: can be accessed only inside the class.

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protected: accessed by classes and subclasses of the same package.

default modifier : accessed by classes contain the same package

22) What is the difference between subclass and superclass?

Subclass doesn't inherit anything from other classes whereas superclass inherit from other class.

23) What is a package?

Package is a collection interface and class which provides a very high level of protection and space management.

24) What is the difference between Integer and int?-

Integer defined in java. lang package which is a class, whereas int is a primitive data type defined in the Java language itself.

25) What is synchronization?

It is mechanism that allows only one thread to process the thread at a time. This is mainly to prevent deadlock.