1 Creating many objects while not allowing any to be cleaned up by garbage collection will create a memory leak and may eventually result in:

StackOverflowError

StackOverflowException

OutOfMemoryError

OutOfMemoryException

2 Garbage collection can be forced by

Using the gc() method

Calling the finalize() method

It can never be forced.

None of the options

3 What are Wrapper classes?

These are classes that allow primitive types to be accessed as objects.

Explanation : These are classes that allow primitive types to be accessed as objects. Example: Integer, Character, Double, Boolean etc.

These are classes that wraps functionality of an existing class.

Both of the above.

None of the above.

4 What is the standard signature for the main method?

public static void main(String[] args)

public static void main()

public void static main(String[] args)

public void main(String[] args)

5 Which of the following uses of variable arguments is syntactically correct?

Which of the following uses of variable arguments is syntactically correct? Choose all that apply.

public void someMethod(int...a, int b){...}

public void someMethod(int...a, int...b){...}

public void someMethod(int a, int...b){...}

Explanation : A variable-length parameter must be the last parameter listed. It is perfectly acceptable to specify other parameters as long as the variable-length parameter comes last.

`public void someMethod(int...a){...}`

Explanation : There is only parameter in this case, so the variable-length parameter is the last parameter by default, which makes this use legal.

6 Which of the following is a valid constructor of class Animal?

`public void Animal()`

`public Animal(int a, int b)`

`public int Animal(int a, int b)`

`private void Animal(int a, int b)`

7 A class always has a default constructor.

`True`

`False`

Explanation : It is not mandatory to have a default constructor in a class.

8 Which access modifier would encapsulate data?

`Public`

`Private`

Abstract

Static

9 Which of the following 'for' loops are syntactically correct and will not cause an infinite loop?

```
for (Integer i : Integer j) {}
```

```
for (i>10) {}
```

```
for ( ; ; ) {}
```

```
for (int i=10; i<0; i--) {}
```

10 A static method can

Only be called from a static method

Can only be called if at least one instance of its class exists in the program

Cannot be overloaded

Be called even if no instances of its class exist in the program

11 What is the string pool?

A location in memory where all strings are stored.

A location in memory where strings referenced as literals in an application are stored.

Java does not feature a string pool.

A location for strings in the stack.

12 Which of the following is true of the StringBuilder class?

It is safe to use in multi-threaded environments.

Explanation : StringBuilder is not thread-safe, so it is not safe to use in multi-threaded environments.

It extends the String class.

Explanation : The String class is a final class, which means that you cannot extend it.

The class allows you to use the appendString() method to mutate a string.

Explanation : There is no such method on the StringBuilder class.

None of the above.

13 Which of the following is Faster, StringBuilder or StringBuffer?

StringBuilder

Explanation : StringBuilder is faster than StringBuffer.

StringBuffer

Both of the above.

none of the above.

14 What is Abstraction in Object Oriented Programming?

A language concept that attempts to handle complexity by hiding unnecessary details from the user.

A language mechanism that facilitates the reduction of data across multiple objects.

A language construct that details the use case of public methods.

A style of language that replaces english keywords with pictographs.

15 Encapsulation ensures that...

classes expose only certain fields and methods to other classes for access.

Explanation : Correct!

Classes are able to inherit functionality from other classes.

Explanation : Inheritance.

Classes desginate certain methods to be implimented by sub classes.

Explanation : abstract methods.

16 What is inheritance?

It is the process where one object acquires the properties of another.

Explanation : It is the process where one object acquires the properties of another. With the use of inheritance the information is made manageable in a hierarchical order.

inheritance is the ability of an object to take on many forms.

inheritance is a technique to define different methods of same type.

None of the above.

17 What is polymorphism?

Polymorphism is a technique to define different objects of same type.

Polymorphism is the ability of an object to take on many forms.

Explanation : Polymorphism is the ability of an object to take on many forms. The most common use of polymorphism in OOP occurs when a parent class reference is used to refer to a child class object.

Polymorphism is a technique to define different methods of same type.

None of the above.

18 Functional interfaces have a single functionality to exhibit.

false

true

Explanation : Functional interfaces have a single functionality to exhibit.

19 Interfaces and abstract classes are associated with

Abstraction

Encapsulation

Inheritance

Polymorphism

20 It is not possible to instantiate objects of an abstract class

TRUE

FALSE

21 RuntimeException and its subclasses are checked exceptions.

False

True

22 Is it necessary that each try block must be followed by a finally block?

True.

False.

Explanation : It is not necessary that each try block must be followed by a finally block. It should be followed by either a catch block or a finally block.

23 An unchecked exception must be handled with a try/catch block or a throws declaration in order for the code to compile.

TRUE

Explanation : This is the case for checked exceptions.

FALSE

Explanation : Unchecked exceptions are not checked for at compile time. They will still crash your application if encountered at runtime however.

24 What class of objects can be declared by the throws clause?

Exception

Error

Event

Object

RuntimeException

25 What is the root interface of the Collections API?

Collections

List

Collection

Throwable

26 What is the Collections class?

The parent class of List and Set.

A utility class with useful static methods.

The parent class of List, Set, and Map.

A class for creating collection instances.

27 Deletion is faster in LinkedList than ArrayList.

True.

Explanation : Deletion in linked list is fast because it involves only updating the next pointer in the node before the deleted node and updating the previous pointer in the node after the deleted node.

False.

28 Use of generics in Java allow for reusable code with generic typing while also providing

Type Safety

Type Casting

Method-level testing

Thread-safe behavior

29 Which of the following statements is true about Java 8 lambda expression?

Using lambda expression, you can refer to final variable or effectively final variable (which is assigned only once).

Lambda expression throws a compilation error, if a variable is assigned a value the second time.

Both of the above.

Explanation : Both of the above options are correct.

None of the above.

30 Which method must be implemented by all threads?

wait()

start()

stop()

run()

Explanation : All threads must implement the run() method.

31 Which of the following describes the Singleton pattern correctly?

This pattern creates object without exposing the creation logic to the client and refer to newly created object using a common interface.

In this pattern an interface is responsible for creating a factory of related objects without explicitly specifying their classes.

This pattern involves a single class which is responsible to create an object while making sure that only single object gets created.

Explanation : Singleton involves a single class which is responsible to create an object while making sure that only single object gets created.

This pattern is used when we want to pass data with multiple attributes in one shot from client to server.

32 What is Maven?

A build automation and project management tool

A unit testing framework

A database connectivity framework for Java

None of the above

33 Which of the following is true about Maven?

Maven is a project management and comprehension tool.

Maven provides developers a complete build lifecycle framework.

Both of the above.

Explanation : Maven is a project management and comprehension tool. Maven provides developers a complete build lifecycle framework.

None of the above.

34 What is Git?

A version control tool

A build automation tool

An automation server

A container manager tool

35 How do you create a new branch in Git?

git checkout -b <newBranch>

git checkout -n <newBranch>

git checkout -nb <newBranch>

git checkout <newBranch>

36 Git commit workflow

Order the operations for a sensible workflow in Git.

Question	Correct Answer	Your Answer	Result
<code>git clone</code>	1	5	
make changes to files	2		
<code>git add</code>	3		
<code>git commit</code>	4		
<code>git push</code>	5		

37 Which of the following describes Unit Testing? (Choose the best answer)

writing small programs to check the input to a component against a known output and verifying the results

Explanation : Correct.

the process of testing a group of components using interfaces or classes

Explanation : Incorrect.

the process of testing code when you know or have access to the internal workings and structure of a program

Explanation : Incorrect.

the process of testing code when you don't know or don't have access to the source code

Explanation : Incorrect.

38 JUnit provides Assertions for testing expected results.

true

Explanation : JUnit provides Assertions for testing expected results.

false

39 Eclipse supports JUnit integration using its plugin.

true

Explanation : Eclipse supports JUnit integration using its JUnit plugin.

false

40 What is the package for JUnit?

java.junit

org.junit

javax.junit

org.oracle.java.junit

java.test.unit

41 TDD

What is test-driven development?

The process of writing tests first before writing the application code, then ensuring the tests pass

The process of writing tests at the end of development, before the product is put into production

The process of having end users test out the application and report bugs

The process of automating deployment of the application to a server and then testing it out