Note :-Answers highlighted by blue color

Questions :35 Time:60 Mins.

1. **Java interface can contain only _____**
   a. Final variables
   b. Abstract methods
   c. Non-abstract methods
   d. static final variables and abstract methods

2. **Which of these access specifiers can be used for an interface?**
   a. Public
   b. Protected
   c. private
   d. All of the mentioned

3. **Which of the following is an incorrect statement about packages?**
   a. Interfaces specifies what class must do but not how it does
   b. Interfaces are specified public if they are to be accessed by any code in the program
   c. All variables in interface are implicitly final and static
   d. All variables are static and methods are public if interface is defined public

4. **What will be the output of the following Java program? (Java Program on Next Page )**

```
1.  interface calculate
2.  {
3.      void cal(int item);
4.  }
5.  class displayA implements calculate
6.  {
7.      int x;
8.      public void cal(int item)
9.      {
10.             x = item * item;
11.         }
12.     }
13.     class displayB implements calculate
14.     {
15.         int x;
16.         public void cal(int item)
17.         {
18.             x = item / item;
19.         }
20.     }
21.     class interfaces
22.     {
23.         public static void main(String args[])
24.         {
25.             displayA arr1 = new displayA;
26.             displayB arr2 = new displayB;
27.             arr1.x = 2;
28.             arr2.x = 2;
29.             arr1.cal(2);
30.             arr2.cal(2);
31.             System.out.print(arr1.x + " " + arr2.x);
32.         }
33.     }
```

a. 0 0
b. 2 2
c. 4 1
d. 1 4

**5. Which of these is not a correct statement?**

a. Every class containing abstract method must be declared abstract
b. Abstract class defines only the structure of the class not its implementation
c. Abstract class can be initiated by new operator
d. Abstract class can be inherited

6. What will be the output of the following Java code?

```
1.  class A
2.  {
3.      public int i;
4.      public int j;
5.      A()
6.      {
7.          i = 1;
8.          j = 2;
9.  }
10.     }
11.     class B extends A
12.     {
13.         int a;
14.         B()
15.         {
16.             super();
17.         }
18.     }
19.     class super_use
20.     {
21.         public static void main(String args[])
22.         {
23.             B obj = new B();
24.             System.out.println(obj.i + " " + obj.j)
25.         }
26.  }
```

a. 1 2
b. 2 1
c. Runtime Error
d. Compilation Error

7. What is not the use of "this" keyword in Java?

a. Referring to the instance variable when a local variable has the same name
b. Passing itself to the method of the same class
c. Passing itself to another method
d. Calling another constructor in constructor chaining

8. Given the following piece of code:

```
public class School{
        public abstract double numberOfStudent();
}
```

Which of the following statements is true?

a. The keywords public and abstract cannot be used together.
b. The method number Of Student() in class School must have a body.
c. You must add a return statement in method number Of Student().
d. Class School must be defined abstract.

9. What is not the advantage of Reflection?

a) Examine a class's field and method at runtime

b) Construct an object for a class at runtime

c) Examine a class's field at compile time

d) Examine an object's class at runtime

10. Which of the following is an incorrect statement regarding the use of generics and parameterized types in Java?

a. Generics provide type safety by shifting more type checking responsibilities to the compiler
b. Generics and parameterized types eliminate the need for down casts when using Java Collection
c. When designing your own collections class (say, a linked list), generics and parameterized types allow you to achieve type safety with just a single class definition as opposed to defining multiple classes
d. All of the mentioned

11. Which of the following reference types cannot be generic?

A. Anonymous inner class
B. Interface
C. Inner class
D. All of the mentioned

12. Which of these types cannot be used to initiate a generic type?

A. Integer class

B. Float Class
C. Primitive Types
D. Collections

13. **What is the difference between a try-catch block and a try-catch-finally block?**

A. try-catch contains code to execute only if an error occurs, try-catch-finally contains code to execute whether an occurs
B. try-catch contains code to execute whether an occurs or not, try-catch-finally contains code to execute only if an error
C. try-catch contains code to execute if an error occurs or not, while try-catch-finally works the same way as try-catch
D. Same thing, different names

14. **Generics does not work with?**

A. Set
B. List
C. Tree
D. Array

15. **Given:**

```
Import java.util.*;
class Business {}
class Hotel extends Business {}
class Inn extends Hotel {}
public class Travel {
        ArrayList<Hotel> go(){
                // LINE: 9 insert code here
        }
}
```

Which statement inserted independently at *LINE: 9* will compile? (Choose all that apply)

A. return new ArrayList<Inn>();
B. return new ArrayList<Hotel>();
C. return new ArrayList<Object>();
D. return new ArrayList<Business>();

16. **Given:**

```
try { int x = Integer.parseInt("two"); }
```

Which could be used to create an appropriate **catch** block? (choose all that apply)

A. Class Cast Exception
B. Illegal State Exception
C. Number Format Exception
D. Illegal Argument Exception
E. Array Index Out Of Bounds Exception

17. **Given:**

```
public class Over Andover {
    static String s = "";.
    public static void main(String[] args) {
        try {
            s += "1";
            throw new Exception ();
        } catch (Exception e) {
            s += "2";
        } finally {
            s += "3";
            doStuff();
            s += "4";
        }
        System.out.println(s);
    }

    Static void doStuff() {
        int x = 0;
        int y =  7/x;
    }
}
```

What is the result?

A. 12
B. 123
C. 1234
D. Compilation fails
E. 123 followed by exception
F. An exception is thrown with no other output

18. **Which of the following creates a Path object pointing to c:/temp/exam? (Choose all that apply.)**

a. new Path ("c:/temp/exam")

b. new Path ("c:/temp", "exam")
c. Files.get ("c:/temp/exam")
d. Files.get ("c:/temp", "exam")
e. Paths.get ("c: /temp/exam")
f. Paths.get ("c: /temp", "exam")

19. **What will happen if two threads of the same priority are called to be processed simultaneously?**

a. Anyone will be executed first lexicographically
b. Both of them will be executed simultaneously
c. None of them will be executed
d. It is dependent on the operating system

20. **What will be the output of the following Java code?**

```
1. class multithreaded_programing
2. {
3. public static void main(String args[])
4. {
5. Thread t = Thread.currentThread();
6. System.out.println(t);
7. }
8. }
```

a) Thread[5,main]
b) Thread[main,5]
c) Thread[main,0]
d) Thread[main,5,main]

21. **Which function of Thread class is used to check whether the current thread is still running?**

a. Is Alive()
b. alive()
c. Is Running()
d. join()

22. **What is true about threads?**

a. Threads consumes CPU in best possible manner
b. Threads enables multi processing.
c. Multi threading reduces idle time of CPU
d. All

23. **A thread can acquire a lock by using which reserved keyword?**

a. volatile
b. synchronized
c. locked
d. None

24. **Which of these is not a Thread state?**

a. New
b. Runnable
c. sleep
d. Terminated

25. **wait(), notify() & notify All() are methods of which class or interface?**

a. Thread class
b. Runnable interface
c. Object
d. None

26. **What are valid statements for the sleep method?**

a. when sleep() is called on thread it goes from running to waiting state and can return to runnable state when sleep time is up.
b. sleep() is a static method, causing the currently executing thread to sleep for the specified number of milliseconds.
c. thread need not to to acquire object lock before calling sleep() method
d. All

27. **What will be the output of below program?**

```
class Base {
 public void show() {
   System.out.println("Base::show() called");
 }
}
class Derived extends Base {
 public void show() {
   System.out.println("Derived::show() called");
 }
}
public class Main {
 public static void main(String[] args) {
   Base b = new Derived();;
   b.show();
 }
}
```

a. Derived::show() called
b. Base::show() called
c. Compile time error
d. Runtime exception

28. **Which of the following is true about inheritance in Java?**

a. Private methods are final.
b. Protected members are accessible within a package and inherited classes outside the package.
c. Protected methods are final.
d. We cannot override private methods.
e. a, b and d

29. **Which of the following is true about inheritance in Java.**

a. In Java all classes inherit from the Object class directly or indirectly. The Object class is root of all classes.
b. Multiple inheritance is not allowed in Java.
c. Unlike C++, there is nothing like type of inheritance in Java where we can specify whether the inheritance is protected, public or private.

i. a, b and c
ii. a and b
iii. b and c
iv. a and c

30. **What is multithreaded programming?**

a. It's a process in which two different processes run simultaneously
b. It's a process in which two or more parts of same process run simultaneously
c. It's a process in which many different process are able to access same information
d. It's a process in which a single process can access information from many sources

31. **Which of these is synchronized?**

a. TreeMap
b. HashMap
c. Hashtable
d. All

32. **HashSet internally uses?**

a.Set
b.HashMap
c.List

d.Collection

**33. Which of the following options can throw a NullPointerException?**

a. TreeSet<String> s = new TreeSet<>();
s.add(null);

b. HashMap<String, String> m = new HashMap<>();
m.put(null, null);

c. ArrayList<String> arr = new ArrayList<>();
arr.add(null);

d. Hash Set<String> s = new HashSet<String>();
s.add(null);

**34. What is the output of this program?**

```
public class CS_1 {
    public static void main(String[] args) {
        ArrayDeque<Integer> deque =
            new ArrayDeque<Integer>();
        deque.push(1);
        deque.push(2);
        deque.push(3);
        deque.poll();
        System.out.println(deque);
    }
}
```

a. [1, 2, 3]
b. [1, 2]
c. [2, 1]
d. An exception occurs at runtime

**35. What is true about a break?**

a. Break stops the execution of entire program
b. Break halts the execution and forces the control out of the loop
c. Break forces the control out of the loop and starts the execution of next iteration
d. Break halts the execution of the loop for certain time frame