Quiz-4 Advance Programming

Time:30 minutes

Name	
Roll number	

Q1) What will happen to a working code when a parameterized constructor is added to a class that didn't have one earlier? Assume an object of that class was being created in the code.

a) compilation error b) no compilation error
c) no runtime error d) runtime error

Q2) Which of the following is/are TRUE about abstract classes in Java (more than one correct)?

a)If a child class does not implement all the abstract methods of the parent abstract class, then the child class should also be marked as abstract using 'abstract' keyword
b)Abstract classes can have constructors
c)A class can be made abstract without any abstract method
d) A class can inherit from multiple abstract classes.

Q3) Mark the correct answer.

```
abstract class demo{
   public int a;
   demo(){ a = 10; }
   abstract public void set();
   abstract final public void get();
}
class Test extends demo{
   public void set(int a){ this.a = a;}
   final public void get() {
      System.out.println("a = " + a);
   }
   public static void main(String[] args){
      Test obj = new Test();
      obj.set(20);
      obj.get();
   }
}
```

a) a=10 b) a=20
c) Compilation error d) None of these

Q4) Predict the output of the below code.

```
class Point {
  int m_x, m_y;
  public Point(int x, int y) { m_x = x; m_y = y; }
  public int getX() { return m_x; }
  public int getY() { return m_y; }

  public static void main(String args[]) {
    Point p = new Point(10,20);
    System.out.println(getX());
  }
}
```

a)10 b)0
c)Compilation Error d)None of the above

Q5) What's the output?

```
class Outer {
   public static int temp1 = 1;
   private static int temp2 = 2;
   public static int temp3 = 3;
   private int temp4 = 4;
   public class Inner{
      private static int temp5 = 5;
      private static int getSum(){
         return (temp1 + temp2 + temp3 + temp4 +temp5);
      }
   }
   public static void main(String[] args)
   {
      Outer.Inner obj = (new Outer()).new Inner();
      System.out.println(obj.getSum());
   }
}
```

a)15 b) 9
c) 5 d)Compilation Error

Q6) What will be the output?

```
interface A{
        public void method1();
}
class One implements A{
        public void method1(){
        System.out.println("Class One Method1");
        }
}
class Two extends One{
        public void method1(){
        System.out.println("Class Two Method1");
        }
}
public class Test {
        public static void main(String[] args) {
                A a = new Two();
                a.method1();
        }
}
```

a.) Class One method1
b.) Class Two method1
c.) Nothing will be printed
d.) Compilation Error

Q7) Given the following definitions, which assignments are legal?

```
class Box<T> { }
class SuperBox<T> extends Box<T> { }
```

a.) Box<Object>b = new Box<String>();
b.) Box<String>b = new SuperBox<String>();
c.) Box<Object>b = new SuperBox<String>();
d)None of the above

Q8) Given the following definition of Bird and Chicken, which of the given statements will not compile?

```
abstract class Bird implements Livestock{ }
class Chicken extends Bird { }
```

(a) Bird bird = new Chicken();
(b) Livestock livestock = new Chicken();
(c) Bird bird = new Bird();
(d) None of these will compile

Q9) Suppose the class Undergraduate extends the class Student which extends the class Person. Given the following variable declaration:
Person p = new Person();
Student s = new Student();
Undergraduate ug = new Undergraduate();

1) p = ug; 2) p = new Undergraduate();
3) ug = new Student();
4) ug = p; 5) s = new Person();
Which of the above assignments are legal?

a) 1 and 2
b) Only 2
c) 3, 4 and 5
d) None of the above

Q10) Which statement is/are false in java language:
(a) A public member of a class can be accessed in all the packages.
(b) A private member of a class cannot be accessed by the methods of the same class.
(c) A private member of a class cannot be accessed from its derived class.
(d) A protected member of a class can be accessed from its derived class.

Q11) Number of threads required to run the below java program is:

```
public class ThreadExtended extends Thread {
        public void run()
        {System.out.println("\nThread is running
        now\n"); }
        public static void main(String[] args) {
                ThreadExtended threadE = new
                ThreadExtended();
                threadE.start();
        }
}
```

a) 0 b) 1
c) 2 d) 3

Q12) Predict the output.

```
class Test{
        int count = 0;
        void A() throws Exception {
    try{
        count++;
        try{
            count++;
            try{
                count++;
                throw new Exception();
            }
            catch(Exception ex){
                count++;
                throw new Exception();
            }
        }
        catch(Exception ex){
            count++;
        }
    }
    catch(Exception ex){
        count++;
    }
  }

  void display(){
      System.out.println(count);
  }
   public static void main(String[] args) throws
Exception{
      Test obj = new Test();
      obj.A();
      obj.display();
  }
}
```

a) 4 b) 5
c) 6 d) Compilation error

Q13) Which of these different types of checked exceptions could get generated during the deserialization process of an object?
1) IOException
2) ClassCastException
3)ClassNotFoundException
4)NullPointerException
a) 1 and 3
b) Only 3
c) 1, 3 and 4
d) 1,2,3 and 4

Q14) What will be the output?

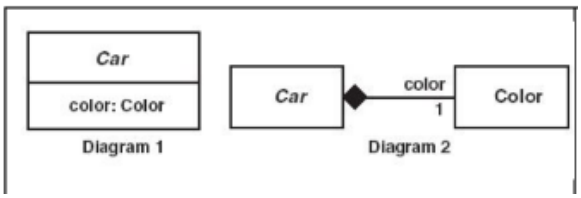
```
public class Test {
    public static void main(String [] args) {
            try {
                    badMethod();
                    System.out.print("A");
                        }
            catch (Exception ex) {
                        System.out.print("B");
                        }
             finally {
                        System.out.print("C");
                        }
                        System.out.print("D");
        }
        public static void badMethod() {
        throw new Error();
        }
}
```

a.) ABCD
b.) Compilation fails.
c.) C is printed before exiting with an error message.
d.)BC is printed before exiting with an error message.

Q15) RectangleComparator is a class that implements Comparator interface to compare two rectangles based on its area. What kind of design pattern can be implemented for creating objects of the RectangleComparator class?
a. Singleton b. Flyweight
c. Facade d. Proxy

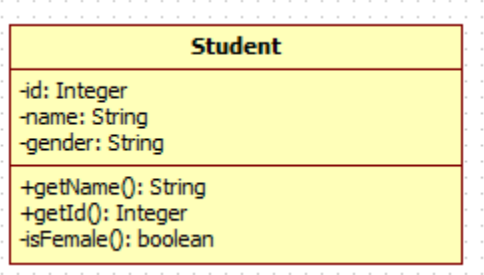
Q16) Which design pattern provides a single class that provides simplified methods required by the client and delegates calls to those methods?
a. Adapter pattern
b. Iterator pattern
c. Facade pattern
d. Prototype pattern

Q17) With reference to the following figure , what do Diagrams 1 and 2 illustrate? Choose only one option.



A. 1: An aggregation, 2: A composition.
B. 1: An attribute, 2: An aggregation.
C. 1: An aggregation, 2: An attribute.
D. 1: An attribute, 2: A composition.

Q18) Which of the following is/are true about the Student class as depicted in UML



a) the attribute "id" is privately accessed
b) the attribute "id" is publicly accessed
c) getName, getId and isFemale are all attributes in class Student
d) getName accepts a parameter of type String
e)isFemale() is a protected method

Q19) How many methods does Serializable have?

a)0 b)1 c)2 d)3

Q20) You have thread T1, T2, and T3. How will you use it to ensure that thread T2 is run after T1 and thread T3 after T2?

a) notify()
b) sleep()
c) wait()
d) join()

Q21) What will be the output of below code?

```
class Main {
    public static void main(String args[]) {
        try {
            throw 10;
             }
        catch(int e) {
         System.out.println("Got the  Exception " + e);
                }
              }
            }
```

a)Got the Exception 10
b)Got the Exception 0
c)Compiler Error
d)None of the above

Q22) What will be the output of below code?

```
class BadThreads {
   static String message;

   class CorrectorThread extends Thread {
           public void run() {
              try {
                     sleep(1000);
                   } catch (InterruptedException e) {}
                     message = "Mares do eat oats.";
      }
   }
    public static void main(String args[])throws
InterruptedException {
  ((new BadThreads()).new CorrectorThread()).start();
                  message = "Mares do not eat oats.";
                  Thread.sleep(2000);
                  System.out.println(message);
}
}
```

a. Mares do eat oats.
b. Mares do not eat oats.
c. Compilation Error
d. none of the above

Q23) What will be the Output?

```
class Animal {
        String name = "animal";
        String makeNoise() { return "generic
        noise"; }
}
class Dog extends Animal {
        String name = "dog";
        String makeNoise() {
                return "bark";
        }
}
public class Test {
        public static void main(String[] args){
                Animal an = new Dog();
                System.out.println(an.name+"
                "+an.makeNoise());
        }
}
```

a.) animal generic noise
b.) animal bark
c.) dog bark
d.) dog generic noise

Q24) Which of the following is correct about JUnit execution procedure?

a. Method annotated as @After executes for each test case but after the execution of test case
b. In between method annotated as @Before and method annotated as @After each test case executes
c. Both of the above
d. None of the above

Q25) Name the keyword that makes a variable belong to a class, rather than being defined for each instance of the class.

a. final
b. static
c. volatile
d. Native