OOCL Java Boot camp weekly Test 3.

Time: 1.5 hour Full marks: 100

Name: _____ Score: _____

Part 1. Multiple Choice/code Questions.
(Please choose the best answer from the given options (15*3) + (6*5) = 75)

1) Table Employee has 10 records. It has a non-NULL SALARY column which is also UNIQUE. The SQL statement, **3 points**

SELECT COUNT (*) FROM Employee WHERE SALARY > ANY (SELECT SALARY FROM EMPLOYEE);

Prints:

A. 10 B. 9 C. 5 D. 0

Answer: Option B

ANY compares a value with each of the values in a list or results from a query and evaluates to true if the result of an inner query contains at least one row. ANY must be preceded by comparison operators (=, >, <, <=, >=, <>).

Employee table has 10 records and each value in non-NULL SALARY column is unique i.e different. So, in that 10 records one of the record will be minimum which cannot be greater than any nine value of the salary column. Hence the condition

WHERE SALARY > ANY (SELECT SALARY FROM employee)

will be true nine times. So, the COUNT (*) outputs 9.

2) The SQL statement **3 points**

SELECT SUBSTR ('abcdefghij', INSTR ('123321234', '2', 3, 2), 2) FROM DUAL;

Prints:

A. gh B. 23 C. bc D. ab

Answer: Option A

Another form of INSTR function used in ORACLE is:

INSTR (str, pattern, [starting position, [nth location]]): Finds the starting location of the nth occurrence of pattern beginning in the starting position-th position in string str.

Example: - SELECT INSTR('kolkata', 'a', 1, 2) FROM DUAL;

will output 7 as the starting location of 2nd occurrence of pattern 'a' from starting position 1 in string 'kolkata' is 7.

In the above query INSTR('123321234', '2', 3, 2) will give the output 7 as the starting location of 2nd occurrence of pattern '2' from starting location three in string '123321234' is 7. Now SUBSTR function becomes SUBSTR('abcdefghij

3) Which of the following must be enclosed in double quotes? **3 points**

A. Dates B. Column Alias C. Strings D. All of the above

Answer: Option B

4) Which of the following command makes the updates performed by the transaction permanent in the database? **3 points**

A. ROLLBACK B. COMMIT C. TRUNCATE D. DELETE

Answer: Option B

5) Which of the following query is correct for using comparison operators in SQL? **3 points**

A. SELECT name, course_name FROM student WHERE age>50 and <80;

B. SELECT name, course_name FROM student WHERE age>50 and age <80;

C. SELECT name, course_name FROM student WHERE age>50 and WHERE age<80;

D. None of these

Answer: Option B

6) How to select all data from student table starting the name from letter 'r'? **3 points**

A. SELECT * FROM student WHERE name LIKE 'r%';

B. SELECT * FROM student WHERE name LIKE '%r%';

C. SELECT * FROM student WHERE name LIKE '%r';

D. SELECT * FROM student WHERE name LIKE '_r%';

Answer: Option A

7) When using the SQL INSERT statement: **3 points**

A. rows cannot be copied in mass from one table to another only.

B. rows can be modified according to criteria only.

C. rows can either be inserted into a table one at a time or in groups.

D. rows can be inserted into a table only one at a time only.

Answer: Option C

8) Which of the following join is also called as an 'inner-join'? **3 points**

A. Non-Equijoin B. Self-Join C. Equijoin D. None of these

Answer: Option C

9) Which of the following is illegal? **3 points**

A. SELECT SYSDATE - SYSDATE FROM DUAL;

B. SELECT SYSDATE - (SYSDATE - 2) FROM DUAL;

C. SELECT SYSDATE - (SYSDATE + 2) FROM DUAL;

D. None of these

Answer: Option D

10) Find the name of those cities with temperature and condition whose condition is either sunny or cloudy but temperature must be greater than 70oF. **3 points**

A. SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' AND condition = 'cloudy' OR temperature > 70;

B. SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' OR condition = 'cloudy' OR temperature > 70;

C. SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' OR condition = 'cloudy' AND temperature > 70;

D. SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' AND condition = 'cloudy' AND temperature > 70;

Answer: Option C

11) Which is the way to provide configuration metadata to spring? **3 points**

A - XML Based configuration file.

B - Annotation based configuration.

C - Java based configuration.

D - All of the above.

Answer: D

12) What is aspect? **3 points**

A - Aspect is a way to do the dependency injection.

B - A module which has a set of APIs providing cross-cutting requirements.

C - Aspect is used to log information of application.

D - Aspect represents properties of spring based application.

Answer: B

13) How to pass information from JSP to included JSP? **3 points**

A - Using <%jsp:param> tag.

B - Using <%jsp:page> tag.

C - Using <%jsp:import> tag.

D - Using <%jsp:useBean> tag.

Answer: A

14) The Java _____ specification defines an application programming interface for communication between the Web server and the application program. **3 points**

a) Servlet b) Server c) Program d) Randomize

Answer: a

Servlets are commonly used to generate dynamic responses to HTTP requests.

15) A JSP is transformed into: **3 points**

a) Java applet b) Java servlet c) Either 1 or 2 above d) Neither 1 nor 2

Answer: b

Servlets are commonly used to generate dynamic responses to HTTP requests.

16) What would be the output of following piece of java code? **6 points**

```
 int Output = 10;
boolean b1 = false;
if((b1 == true) && ((Output += 10) == 20))
{
   System.out.println("We are equal " + Output);
}
else
{
   System.out.println("Not equal! " + Output);
}
```

Answer: Not equal!

17) What results from the following code? **6 points**

```
1. class MyClass
2. {
3.   void myMethod(int i) {System.out.println("int version");}
4.   void myMethod(String s) {System.out.println("String version");}
5.   public static void main(String args[])
6.   {
7.       MyClass obj = new MyClass();
8.       char ch = 'c';
9.       obj.myMethod(ch);
10.  }
11. }
```

A. Line 4 will not compile as void methods can't be overridden.

B. An exception at line 9.

C. Line 9 will not compile as there is no version of myMethod which takes a char as argument.

D. The code compiles and produces output: int version.

E. The code compiles and produces output: String version.

Answer: D

18) What is displayed when the following code is compiled and executed? **6 points**

```
String s1 = new String("Test");
String s2 = new String("Test");
if (s1==s2)
    System.out.println("Same");
if (s1.equals(s2))
    System.out.println("Equals");
```

A. Same Equals B. Equals C. Same

D. The code compiles, but nothing is displayed upon execution.

E. The code fails to compile.

Answer: B

19) What is the result when you compile and run the following code? **6 points**

```
public class Test
{
   public void method()
   {
      for(int i = 0; i < 3; i++)
      {
         System.out.print(i);
      }
      System.out.print(i);
   }
}
```

A. 0122 B. 0123 C. Compilation error D. None of these

Answer: C

20) Given the code below, and making no other changes, which access modifiers (public, protected or private) can legally be placed before myMethod() on line 3? If line 3 is left as it is, which keywords can legally be placed before myMethod on line 8? **6 points**

```
1.  class HumptyDumpty
2.  {
3.     void myMethod() {}
4.  }
5.
6.  class HankyPanky extends HumptyDumpty
7.  {
8.     void myMethod() {}
9.  }
```

A. private or nothing (i.e. leaving it as it is) on line 3. Nothing (i.e. leaving it as it is) or protected or public on line 8.

B. public or protected on line 3. private or nothing (i.e. leaving it as it is) on line 8.

C. nothing (i.e. leaving it as it is) or protected or public on line 3. private or nothing (i.e. leaving it as it is) on line 8.

D. None of the above

Answer: A

21) What results from trying to compile and run the following code?
6 points

```
1.  import java.io.*;
2.
3.  class MyClass
4.  {
5.      public static void main(String args[])
6.      {
7.          try
8.          {
9.              FileOutputStream fos = new FileOutputStream("abc");
10.             DataOutputStream dos = new DataOutputStream(fos);
11.             dos.writeByte(12);
12.             fos.write(100);
13.             fos.close();
14.             dos.close();
15.
16.             FileInputStream fis = new FileInputStream("abc");
17.             DataInputStream dis = new DataInputStream(fis);
18.             byte b = dis.readByte();
19.             System.out.print(b + " ");
20.             int i = dis.readInt();
21.             System.out.println(i);
22.             fis.close();
23.             dis.close();
24.         }
25.         catch(IOException e)
26.         {
27.             System.out.println("An exception occurred");
28.         }
29.     }
30. }
```

A. The output is 12 100

B. Compilation error at line 12 because once you chain a DataOutputStream onto the FileOutputStream, you can't write directly to the FileOutputStream.

C. An exception occurs at Run time at line 20 because there are only two bytes written in the file "abc" and the code tries to read a byte and then an integer.

D. Compilation error occurs at line 20 because there are only two bytes written in the file "abc" and the code tries to read a byte and then an integer.

Answer: C

Part 2. Answering sort Questions.
(Please write answers to the following questions 5*5== 25)

Question 1: What is dependency injection in Spring Framework?

Question 2: Elaborate the following technical terms:

DOM:

AJAX:

MVC:

OEM:

IoC:

Question 3: What is Spring and why would we use it in modern web development?

Question 4: Write java program to take any real number input from user and create pyramid of that numbers like in Pattern of the following image.

Question 5: Please explain modern client-server scenario and web content handling with graph.