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Course Code: MCA-205 Course Name: Java Programming

Class Test 1

Time: 1 Hour Max Marks: 20

1. String objects are stored in String literal pool in the _____ memory area and it has main issues of _____ and _____. Due to these drawbacks, Java came up with two extension classes_____ that is thread safe and _____ that is thread unsafe. 1 mark

2. Justify can a method local inner class access method variable? Why/Why not? 1 mark

3. Determine what Object Oriented Features are modeled by an **empty java class**? 1 mark

4. Give the output **with reason** of the following code snippet: 2 marks

```
package com.instanceofjava;

public class A{
 public static void show(){
      System.out.println("Static method called");
  System.out.println('o' + 'r' + 'a' + 'c'+'l'+'e');
 }

 public static void main(String[] args)  {
      A obj=null;
      obj.show();
   }
}
```

5. Give the output **with reason** of the following code snippet: 2 marks

```
package com.instanceofjava;
class A
{
   void method(int i){
    i = 10 + + 11 - - 12 + + 13 - - 14 + + 15;
     System.out.println(i);
   }
 }

 class B extends A
```

```
{

@Override
void method(Integer i){ }
}
```

6. Explain all object oriented features through code in the object '***Stone***'. 2 marks

7. Identify/explain errors/output **with reason** in the following code snippet 2 marks

```
class ConstructorPOC{
        ConstructorPOC(){
                return;
        }
        public static void main(String...args){
                ConstructorPOC obj = new ConstructorPOC();
                System.out.println("Object created");
        }
}
```

8. Give the output **with reason** of the following code snippet: 2 marks

```
package com.instanceofjava;

public class B{
 B b= new B();

 public int show(){
    return (true ? null : 0);
 }

 public static void main(String[] args)  {
      B b= new B();
      b.show();
   }
}
```

9. Difference between ***access modifier, access specifier*** and ***access qualifier*** 2 marks

10. **UCLA**(University of California and Los Angeles) plans to establish a new department on **BlockChain research**. 5 marks

    a. The university has different schools like **School of Computer Science, School of Mathematics** and **School of Arts**.
    b. Each school shares some specific guideline methods like **semesterCurriculum()**, **annualAssessment()** that it implements from **iUniversityManagement interface.**
    c. Every school has a set of **departments** based on the degree majors it offers. **BlockChain research** is being proposed as a department under **School of Computer Science.**
    d. Every department has a separate set of **students** enrolled in it.

A main class **UniversityOperations** has a user driven admin panel that allows the user to perform the following tasks:

a. Add a new department of BlockChain **research** in the **School of Computer Science.**
b. **Enroll** new students under any department.
c. Call appropriate **semesterCurriculum()**, **annualAssessment() implementations** depending on School of user choice.

Sort students of BlockChain research department based on student enrollment number.

********** **Wish you luck!** **********