



**United International University (UIU)**  
**Dept. of Computer Science and Engineering (CSE)**  
**MID TERM EXAM :: FALL 2018**

Course Code: **CSI 211** Course Title: **Object-Oriented Programming**  
Date: **22/11/18** Total Marks: **30** Time: **1 Hour 45 mins**

1. a) Write a Java program that will go through the items of an **array** and find the **min** value using **enhance for loop**. Take the following values as the initial values of the array {2, 3, 9, 8, 13, 1, 5, 19, 15} [2]

- b) What is the difference between following two declarations in Java? [1]

i. `int c [ ], x`

ii. `int [ ] c, x`

- c) Write a code fragment to create the following multidimensional integer array. [2]

0			
1	2		
3	4	5	
6	7	8	9

2. a) Consider the following **MovieTheater** class. Now, write a **Movie** class in such a way that **MovieTheater** class will give expected output as shown below. [3]

Code	Output
<pre>public class <b>MovieTheater</b> {     public static void main(String[] args) {         Movie m_Debi = new Movie("Debi", 2018, "1hr 30min");         Movie m_Venom = new Movie ("Venom", 2018, "1hr");          m_Debi.play();         m_Venom.play();         Movie.movieInfo(m_Debi);     } }</pre>	<pre>Playing: Debi [2018] Playing: Venom [2018] Movie name: Debi, year: 2018, Duration: 1hr 30min</pre>

- b) Find out if the following JAVA programs have **any error**. **Fix the code and rewrite**. You cannot delete any line of code. However, you are allowed to **edit or add** any code as per requirement. [2]

<pre>public class Simple {     static int a=5;     int b=6;     private int #x=5;     private int data=100;     static void sum(){         System.out.println(a+b);     } }</pre>	<pre>public class Test {     public static void main(String[] args) {         Simple s=new Simple();         Simple.sum();         System.out.println(s.data);     } }</pre>
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3. a) Write a class **Grader** which has three attributes: **name**, **id** and **payPerAssignment**. The constructor of Grader class initializes **name**, **id** and **payPerAssignment** with **this** reference keyword. There is one method named **void printEarnings()** which **prints** the earning of grader by multiplying the number of graded assignments with per-assignment-pay. To do so, you should include **one private instance** variables in Grader class definition: **count**. Use getter and setter methods in the class to set and get the values of the field. [4]

b) What is the difference between static binding and dynamic binding? [1]

4 a) Fix the following code and rewrite the correct one. [4]

<pre>class A{     private int ai;      public A(int ai){ this.ai = ai; }      void set(){         this.ai = 0;     }     void set(int ai){         this.ai = ai;     } }</pre>	<pre>class B extends A{     private int bi;      public B(){ }     public B(int bi){         this(0, bi);     }      void set(){         ai = 0;         bi = 0;     }     void set(intai, int bi){         this.ai = ai;         this.bi = ai;     } }</pre>
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b) Write the output of the following code. [1]

<pre>public class Parent {     Parent()     {         System.out.println("Parent Class");     } }</pre>	<pre>public class Child extends Parent{     Child()     {         System.out.println("Child Class");     }      public static void main(String[] args) {         Child c=new Child();     } }</pre>
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5. Suppose you are hired by a company to make them a java program that calculates each employee's monthly salary. You decided to write an **abstract class** named **Employee** which has **name** and **age** as member variables and **calculateMonthlySalary()** as **abstract** member function. There are two other concrete classes named **DailySalariedEmployee** and **HourlySalariedEmployee**. Both of these classes are subclass of Employee class. DailySalariedEmployee has a member variable **dailySalary** and HourlySalariedEmployee has a member variable **hourlySalary**. [5]

Now, write each of the classes (Employee, DailySalariedEmployee, HourlySalariedEmployee). You should write appropriate constructors that initialize the member variables. There are 22 working days and 176 working hours in a month.

6. a) Write the output of the given code.

[3]

```
public class Wizard {  
    String name;  
    Wizard(String n)  
    {  
        name=n;  
    }  
}
```

```
public class Application {  
    public static void main(String[] args) {  
        Wizard w1=new Wizard("Hagrid");  
        Wizard w2=new Wizard("Sirius");  
        Wizard w3=new Wizard("Harry");  
  
        w1=w2;  
        w2=w3;  
        w3=w1;  
  
        System.out.println(w1.name);  
        System.out.println(w2.name);  
        System.out.println(w3.name);  
    }  
}
```

b) Write the output of the given code.

[2]

```
public class Example {  
    static int a=5;  
    int b=10;  
}
```

```
public class FindOutput {  
    public static void main(String[] args) {  
        Example e1=new Example();  
        Example e2=new Example();  
  
        e1.a=10;  
        e1.b=30;  
  
        System.out.println(e2.a);  
        System.out.println(e2.b);  
        System.out.println("Sum: "+2+3);  
        System.out.println('a'+2);  
    }  
}
```