Obj5		Obj7	
	80		30

QUIZ II

Name

1) What will be the output of the following program? (10 Pts. - Objective 5)

```
public class Question1 {
    public static void main(String[] args) {
        List<Integer> list = new ArrayList<>();
        list.addAll(Arrays.asList(new Integer[] {5,-2,-3,2,4,-2,-4,1}));
        for(int i=0; i < list.size(); i++) {
            if (list.get(i) < 0 ) {
                list.remove(i);
            }
        }
        System.out.println(list);
    }
}
```

2) Rewrite the loop in the main method of Question1 to remove the positive numbers from the list (20 Pts. - Objective 5)

3) What will be the output of the following program? (10 Pts. - Objective 5)

```
public class Question3 implements Comparable<Question3>{
    String value;

public static void main(String[] args) {
        Set<Question3> set = new TreeSet<>();
        set.add(new Question3("abc"));
        set.add(new Question3("a"));
        set.add(new Question3("bc"));
        set.add(new Question3("ab"));
        set.add(new Question3("c"));
        System.out.println(set);
    }
    public Question3(String value){
        this.value = value;
    }
    public int compareTo(Question3 q) {
        return q.value.length() - value.length();
    }
    public String toString(){
        return value;
    }
}
```

4) Add a method to the class so the set will have 3 instances of Question4 having values 7, 5 and 3. (20 Pts. - Objective 5)

```
public class Question4 {
    int value;
    public static void main(String[] args) {
        Set<Question4> set = new HashSet<>();
        set.add(new Question4(7));
        set.add(new Question4(5));
        set.add(new Question4(3));
        set.add(new Question4(0));
        set.add(new Question4(2));
    }
    public Question4(int value){
        this.value = value;
    }
    public boolean equals(Object o){
        if (o instanceof Question4){
            return value % 5 == ((Question4)o).value % 5;
        }
        return false;
    }
}
```

5) What will be the output of the following program? (10 Pts. - Objective 5)

```
import java.util.Comparator;
import java.util.Map;
import java.util.TreeMap;
public class Question5 implements Comparator<Integer> {
    public int compare(Integer q1, Integer q2) {
        return q1 %5 - q2 % 5;
    }

    public static void main(String[] args) {
        Map<Integer, String> map = new TreeMap<>(new Question5());
        map.put(3, "a");
        map.put(7, "ab");
        map.put(8, "abc");
        map.put(2, "a");
        map.put(5, "bc");
        System.out.println(map);
    }
}
```

6) What will be the output of the following program? (10 Pts. - Objective 5)

```
public class Question6 {
    int value;
    public static void main(String[] args) {
        Map<Question6, String> map = new LinkedHashMap<>();
        map.put(new Question6(3), "a");
        map.put(new Question6(7), "ab");
        map.put(new Question6(8), "abc");
        map.put(new Question6(2), "a");
        map.put(new Question6(5), "bc");
        System.out.println(map);
    }
    public Question6(int value){
        this.value = value;
    }
    @Override
    public boolean equals(Object o) {
        if (o instanceof Question6){
            return value % 5 == ((Question6)o).value % 5;
        }
        return false;
    }
    public String toString() {
        return ""+value;
    }
    public int hashCode() {
        return 0;
    }
}
```

7) What will be the output of the following program? (10 Pts. - Objective 7)

```
public class Question7 extends Exception{
    public static void main(String[] args) {
        try {
            aMethod();
        } catch (Exception e) {
            System.out.print("F");
        }
    }
    public static void aMethod() throws Exception{
        try {
            badMethod();
            System.out.print("A");
        } catch (RuntimeException ex) {
            System.out.print("B");
        } catch (Exception ex1) {
            System.out.print("C");
            throw new Exception(ex1);
        } finally {
            System.out.print("D");
        }
        System.out.print("E");
    }
    public static void badMethod() throws Question7{
        throw new Question7();
    }
}
```

8) What will be the output of the following program? (20 Pts. - Objective 7)

```
public class Question8 {
    public static void main(String[] args) {
        try {
            method1();
        } catch (Exception ex) {
            System.out.println("G");
        }
    }

    private static void method1() {
        System.out.print("A");
        try {
            method2();
        } catch (RuntimeException ex) {
            return;
        } catch (Exception ex) {
            System.out.println("D");
        } finally {
            System.out.print("E");
        }
        System.out.print("F");
    }

    private static void method2() {
        try {
            System.out.print("B");
            int a = 5 / 0;
        } catch (Exception ex) {
            throw ex;
        } finally {
            System.out.print("C");

        }
    }
}
```