

# Department of Computer Science, CUSAT

M.Sc. Semester II First Series Examinations, July 2022

## 21-805-0205: Java Programming

Time: 2 hours

marks: 20

1. Explain with examples, how modifiers are used to control the visibility of identifiers. [5]
2. What are interfaces in Java? How and why are they used? [1+3]
3. Consider the following inheritance hierarchy:

```
public class Show {  
    Show() { }  
    public void show() { System.out.println("Show"); }  
    public class DiceShow extends Show {  
        private int sides;  
        DiceShow(int sideCount) { this.sides = sideCount; }  
        public void show(int size) { System.out.println("ONE"); }  
        public void show() { System.out.println(super.show()); }  
        public int getSidesCount() { return sides; }  
    }  
}
```

The code snippets below are from the *main* method that uses the two classes viz. Show and DiceShow. Give the output of the code snippets. If the code fails in some way give your response as "will fail".

### snippet 1

```
Show show = new DiceShow(8);  
show.show();
```

### snippet 2

```
Show show = new DiceShow(8);  
System.out.println(show.  
    getSidesCount());
```

### snippet 3

```
Show show = new DiceShow();  
show.show(12);
```

[2+2+2]

4. (a) How are objects instantiated in Java? [2]  
(b) Give examples for the initialization of classes and objects. [3]

