

CT3: CSE 203 - Object-Oriented Programming I: Java

Time: 30 min

Mark: 20

Name:

ID:

Question 1: Create an abstract class named **Vehicle** and add the following to this abstract class. [10]

- a) Instance variable: model, enginePower
- b) Parameterized Constructor:
- c) Concrete methods
 - I. `public double getEnginePower()`
 - II. `public void display()`
- d) Abstract methods:
 - I. `public void run()`
 - II. `public void accelerate(double rate)`

Question 2: Create a subclass of **Vehicle** class (Question 1) and name it **Car**. Write the minimum code required to make the **Car** class error-free. [8]

Question 3: Assume there is an interface **Playable** which has a method “void play()”. Which of the following are the correct declaration of the overridden method? [2]

- a) `public void play()`
- b) `public abstract void play()`
- c) `void play()`
- d) None of the above

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Question 1: Create an interface named **Door**. Add the following method to this interface. [7]

void open()

void close()

Question 2: Now create a class named **Car** which should implement the **Door** (Question 1) interface. Write the minimum code required to make the **Car** class error free. Also, add the following to this **Car** class. [10]

- a) Attributes: model and noOfDoors.
- b) Parameterized constructor which should take the model and noOfDoors as parameter and initialize the respective attributes.

Question 3: What is the output of the following code segment based on your code of Q1 and Q2. Explain your answer. [3]

```
Door car = new Car("Honda Accord", 4);
car.open();
car.close();
```