

CT2: CSE 203 - Object-Oriented Programming I: Java

Time: 30 min

Mark: 20

Name:

ID:

Question 1:

[10]

Define a class and name it as “**ClassTest**”. Add the following inside the class.

- a) Define instance variables **name**, **score**, **noOfQuestions**
- b) Add a parameterized **constructor** which will take parameters for all attributes and initializes the respective attributes with the parameters passed to the constructor.
- c) Add the following methods.
 - I. `public void addQuestion(int mark)`
– Inside the method, increase the **noOfQuestions** by 1 and **score** by **mark** amount. Here **noOfQuestions** and **score** are the instance variables whereas **mark** is the parameters passed to the method.
 - II. `public int getQuestionCount()`
– the method should return the **noOfQuestions** attribute.
 - III. `public void display()`
– inside the method, print the value of all attributes.

Question 2:

[10]

Define a class and name it as “**Course**”. Define the **main** method inside the class. Inside the main, do the following.

- a) Create an object of **ClassTest** class and pass **name**=your first name, **score**=15 and **noOfQuestions**=3. Store the reference to a variable name **ct1**.
- b) Create another object of **ClassTest** class and pass **name**=your last name, **score**=10 and **noOfQuestions**=4. Store the reference to a variable name **ct2**.
- c) Call the **addQuestion(...)** method using the **ct1** variable and pass **mark = 3 + id%13** where **id** is the last 2 digits of your registration number.
- d) Call the **display()** method using **ct1** and **ct2** variables
- What is the output of these calls?

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Question 1:

[10]

Define a class and name it as “**Course**”. Add the following inside the class.

- a) Define instance variables **title**, **credit**, **noOfStudents**
- b) Add a parameterized **constructor** which will take 3 parameters for 3 attributes and initializes the respective attributes.
- c) Add the following methods.
 - i. `public void registerCourse(int studentCount)`
 - Inside the method, increase the **noOfStudents** by **studentCount** amount. Here **noOfStudents** is the instance variable whereas **studentCount** is the value of the parameters passed to the method.
 - ii. `public void dropCourse()`
 - Inside the method, reduce the **noOfStudents** by **1**. Here **noOfStudents** is the instance variable.
 - iii. `public int getStudentCount()`
 - from the method, return the **noOfStudents**.
 - iv. `public void display()`
 - inside the method, print the value of all attributes.

Question 2:

[10]

Define a class and name it as “**Spring23**”. Define the **main** method inside the class. Inside the main, do the following.

- a) Create an object of **Course** class **title**=“OOP”, **credit** =3 and **noOfStudents** = 20. Store the reference to a variable name **course1**.
- b) Create an object of **Course** class **title**=“Data Structure”, **credit** =3 and **noOfStudents** = 25. Store the reference to a variable name **course2**.
- c) Call **registerCourse(..)** using **course1** variable and pass the last digit of your registration number as the parameter of the method.
- d) Call **dropCourse()** using **course2** variable
- e) Call the **display(...)** method for both **course1** and **course2**.
 - What is the output of these method calls?