



Higher National Diploma in Information Technology Second year, First Semester Examination - 2022 HNDIT3012 Object-Oriented Programming

Instructions for Candidates:
Answer only five questions.
All questions carry equal marks

No. of questions : 6
No. of pages : 2
Time : 3 hours

Question 01

- I. What is meant by class in object oriented concept? (02 marks)
- II. Describe about the class diagram. (02 marks)
- III. Compare the difference between composition and aggregation (04 marks)
- IV. Draw a suitable class diagram according to the given guidelines (12 marks)

A reputed bank has many branches island-wide, with branch name, address, and contact numbers. Each branch has many customers, with customer code, customer Name, customer address, and contact numbers. Each customer has more than one bank account, with account number, and account type, open date, interest

(Total 20 marks)

Question 02

- I. What is constructor in object oriented programming? (02 marks)
- II. Give an example code for constructor overloading. (02 marks)
- III. Compare the difference between constructor and method. (04 marks)
- IV. Write a simple Java program according to the given guidelines (12 marks)
 - Employee class has private properties namely Employee number, Employee name, address, contact details, and basic salary.
 - Employee class has the public method "salaryIncrement()" which has a parameter named "increment" to increases the basic salary.
 - Create the constructor to update the employee properties with suitable parameters.

(Total 20 marks)

Construction

Polymorphism
Abstraction

Question 03

- I. Describe the following terms in object oriented concepts.
 - a. Polymorphism (02 marks)
 - b. Abstraction (02 marks)
- II. Compare the difference between abstract class and interface (04 marks)
- III. Write a simple Java program based on the given guidelines (12 marks)
 - Employee is an abstract class having private properties namely Employee number, Employee name, address, contact details, and basic salary. It has an abstract method calSalary().
 - Manager is a subclass of Employee, which implements parent class abstract method.

(Total 20 marks)

Encapsulation

Question 04

- I. Specify the possible type of errors during the coding in java programming. (03 marks)
- II. Explain above mentioned type of errors. (06 marks)
- III. Describe about exception handling in computer programming. (03 marks)
- IV. Consider the following program to identify the expense-to-profit ratio. (08 marks)

```
private void btnCalActionPerformed(java.awt.event.ActionEvent evt)
{
    float income = Float.parseFloat(txtIncome.getText());
    float Expence = Float.parseFloat(txtExpences.getText());
    float ratio = Expence*100/(income-Expence);
}
```

- a. Identify two possible exceptions in above code section
- b. Re write the code with exception handling above mention exceptions.

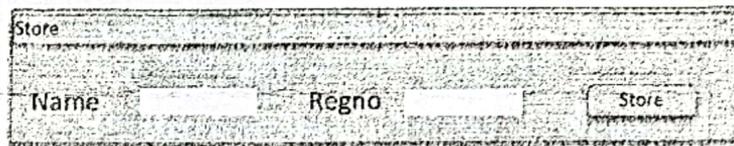
(Total 20 marks)

Question 05

- I. What is meant by stream in Java? (02 marks)
- II. What is swing? (02 marks)
- III. Write the java code to create the following user interface label, textfield and button.

JWT

Name : text box
Regno : text box
Store : button



(08

marks)

- IV. Write the java code to store a message "hi HNDIT" on a text file Notes.txt using the FileOutputStream object. (08 marks)

(Total 20 marks)

Question 06

- ✓ I. Explain about JDBC (02 marks)
- ✓ II. Mention two functions performed by JDBC (02 marks)
- ✓ III. Mention four types of JDBC drivers (04 marks)
- ✓ IV. Write the Java code
 - To Connect with the MySQL database named "StudentDB", which user Name is DBUser and Password is ABC@123.
 - To retrieve from table student (id int , name varchar(10)) all records and print on screen one by one. (12 marks)

(Total 20 marks)