



**SECOND YEAR EXAMINATION FOR THE AWARD OF THE  
DIPLOMA IN INFORMATION TECHNOLOGY  
FIRST SEMESTER, 2022/2023  
(SEPTEMBER-DECEMBER, 2022)**

**DIT 0206: OBJECT ORIENTED PROGRAMMING USING JAVA**

**STREAM: Y2 S1**

**TIME: 2 HOURS**

**DAY: WEDNESDAY, 3:00 – 5:00 P.M.**

**DATE: 07/12/2022**

---

**INSTRUCTIONS**

- 1. Do not write anything on this question paper.***
- 2. Answer Question ONE [Compulsory] and any other THREE Questions.***

**QUESTION ONE**

- Define the following terms:
  - Encapsulation (2marks)
  - Class (1mark)
  - Object (2 marks)
  - Interface (2 marks)
  - Char (1mark)
- Write a snippet code for a switch statement that uses marks to grade students in a class (6 marks)
- Write code for the following:
  - Using snippet of code differentiate break and continue(4 marks)
  - What is method overloading? explain with a snippet of code (4 marks)
  - With an example, explain what are comments in java programming (4 marks)
  - What are the syntax in Java programming (4 marks)

## 2. QUESTION TWO

- a) Use if-else statement to write a program in java that awards students grades based on the following guidelines; A=70-100, B=60-69, C=50-59, D=40-49, F=0-39. The program should request the user to input the mark attained by the student, and should return “an invalid input” error in case the user tries to input any value that is not in the range 0-100. (10 marks)
- b) Write a user friendly program that computes the amount accumulated over a time period using the commercial arithmetic formulas given that  $\text{Interest} = \text{Principal} * \text{Rate} / 100 * \text{Time}$  and  $\text{Amount} = \text{Principal} + \text{Interest}$ . Use appropriate data types as well as enough comments for documentation purposes (10 marks)

## 3. QUESTION THREE

- a) Write program in java that accept and stores the cat marks of ten students in an array, the program then calculates and output the: lowest, highest, sum and average CAT marks (10mrks)
- b) write a java program to print odd and even numbers from an array (10mrks)

## 4. QUESTION FOUR

- a) write JavaFX basic hello word structure (10 marks)
- b) write 3 code snippet showing syntax on how to use three different loops (10 marks)

## 5. QUESTION FIVE

- a) Write java program implementing JAVA FX UI displaying number of click on label from a button (10 marks)
- b) Explain five difference between primitive and non-primitive data type (10 marks)