NATIONAL OPEN UNIVERSITY OF NIGERIA,

PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA

FACULTY OF SCIENCES

2021_1 EXAMINATION 12345

Course Code: CIT 383

Course Title: Introduction to Object-Oriented Programming

Time: 2 Hours

Credit: 2 Units

Instruction: Attempt 4 questions. Question1 is Compulsory and any other three (3) Questions

Question 1

(a). Describe the concept of message passing in computer science (3marks)

   (ii). Message passing systems is being referred to "shared communication". Explain (2marks)

 (b). Describe the effect of message passing on other programming models   (5marks)

 (c). Identify any six features of a constructor in Java   (6marks)

 (d). With an example, explain default constructor in Java   (4marks)

 (e). Describe module in programming   (2marks)

(f). Explain binary operator (2 marks)

(g) Explain the term unary operator and describe its syntax   (3 marks)

Question 2

   (a) Explain the term data encapsulation   (2marks)

(b). Write a class of OOP to implement a bicycle   (13marks)

Question 3

   (a) Identify the three kinds of modules in Java   (3marks)

(b). Describe the term method overloading and outline any two (2) features associated with it

                                                                                    (6marks)

 (c). Describe the key restrictions to overloading the conversion operator   (6marks)

Question 4

   (a). Describe Abstract Data Type and identify its four properties   (7marks)

(b). Using appropriate example, describe the term abstraction   (5marks)

(c). Explain the concept of Data hiding   (3marks)

Question 5

(a). What is a No Argument Constructor?   (2marks)

(b). Create a class that has instance variables of String and Integers which can respectively store a student's first name and age. In the class, create a constructor that assigns non default values to these variables.   (13marks)