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### NIGERIA, UNIVERSITY VILLAGE PLOT 91 CADASTRAL ZONE,

### NNAMDI AZIKIWE EXPRESS WAY, JABI, ABUJA

**FACULTY OF SCIENCES**

**JULY 2018 EXAMINATIONS**

**Course code:** CIT383

**Course Title:**Introduction to Object-Oriented Programming

**Time:**2 HRS **Units:** 2 Credits

**Instruction:** Answer questions one (1) and any other Three (3) questions.

**QUESTIONS**

**Question 1 *(25 marks for Question 1)***

a) What are the characteristics of abstract data type (ADT)? Name three (3) of them. ***(3 marks)***

b) Write a simple Java Program to print message “I Love Java Programming” ***(4 marks)***

c) Define inheritance. State its concept? ***(3 marks)***

d) State 5 five advantages of using methods in Java. ***(10 marks)***

e) Briefly explain what is meant by a class? ***(3 marks)***

f) Define Data encapsulation. ***(2 marks)***

**Question 2 *(15 marks for Question 2)***

a) Write short notes on conversion operators. ***(5 marks)***

b) What is Polymorphism? ***(2 marks)***

c) Mention 2 (two) types of Polymorphism and explain them. ***(4 marks)***

d) List the four (4) logical operators that can be directly overloaded for aclass.***(4 marks)***

**Question 3 *(15 marks for Question 3)***

a) Define a Unary operator overloading and show the syntax. ***(3 marks)***

b) State and briefly explain three (3) benefits of bundling code into individual software

objects. ***(6 marks)***

c) Give four (4) examples of Message passing styles.  ***(4 marks)***

d) Define a Class and the general syntax ***(2marks)***

**Question 4 *(15 marks for Question 4)***

a) Define the following terms: ***(6 marks)***

i) Composition?

ii) Abstraction

b) Tabularise the differences between a Constructor and a Method? ***(4 marks)***

c) List two (2) properties of a class. ***(5 marks)***

**Question 5 *(15 marks for Question 5)***

a) Create a non-executable class that has a method that computes factorial.***(10 marks)***

b) What is the difference between a Class and an Object? ***(5 marks)***