ELIZADE UNIVERSITY

ILARA-MOKIN

FACULTY: BASIC AND APPLIED SCIENCES
DEPARTMENT: MATHEMATICS AND COMPUTER SCIENCE
1st SEMESTER EXAMINATION
2019 / 2020 ACADEMIC SESSION

COURSE CODE: CSC 303

COURSE TITLE: Objects Oriented Programming

COURSE LEADER: Dr. Joshua Tom Joshua

DURATION: 2 Hours

HOD's SIGNATURE

INSTRUCTION:

Candidates should answer any **FOUR** Questions.

Students are permitted to use ONLY a scientific calculator.

1. (a) A programmer can be significantly more productive in Python than in Java. What three features of Python make this assertion uncritically valid?
   (b) State any five points why the introduction of the Object Oriented programming paradigm was necessary
   (c) What are two types of polymorphism? Explain them.

2. (a) What is the difference between Encapsulation and Abstraction?
   (b) What in your opinion is the possible implication of the verbosity of the Java language?
   (c) State and explain six basic concepts that are associated with OOP.

3. (a) Explain why a Java program may offer more security than a Python program
   (b) A simple binary tree test runs ten times faster in Java than in Python. Explain what is responsible for this difference in performance.
   (c) State any seven characteristic features of Java

4. (a) Explain adequately Java's support for polymorphism
   (b) All programming languages implement translation of source code into machine code, but not necessarily in identical ways. Describe how Java and Python approach the translation process.
   (c) Explain what you understand by any three of the following as they relate to OOP:
   (i) Coupling (ii) Cohesion (iii) Association (iv) Aggregation (v) Composition

5. (a) Differentiate between single inheritance and multiple inheritances.
   (b) (i) What is the purpose of a constructor?
   (ii) State and explain three types of constructors?
   (c) Explain how Java and Python implement abstraction

6. (a) State, in simple terms, why the Python Language is significant.
   (b) (i) What is a data type?
   (ii) Comment on the data types supported by Python and Java languages.
   (c) Java only supports single inheritance. Explain how multiple inheritances can be implemented in Java.