GARISSA UNIVERSITY COLLEGE

(A Constituent College of Moi University)

UNIVERSITY EXAMINATION 2016/2017 ACADEMIC YEAR <u>ONE</u> <u>SECOND</u> SEMESTER EXAMINATION

<u>SUPPLEMENTARY/SPECIAL EXAMINATION</u>

SCHOOL OF INFORMATION SCIENCE
FOR THE DIPLOMA INFORMATION TECHNOLOGY

COURSE CODE: DIT 005

COURSE TITLE: OBJECT ORIENTED PROGRAMMING I

EXAMINATION DURATION: 3 HOURS

DATE: 28/09/17   **TIME: 09.00-12.00 PM**

INSTRUCTION TO CANDIDATES

- **The examination has SIX (6) questions**

- **Question ONE (1) is COMPULSORY**

- **Choose any other THREE (3) questions from the remaining FIVE (5) questions**

- **Use sketch diagrams to illustrate your answer whenever necessary**

- **Do not carry mobile phones or any other written materials in examination room**

- **Do not write on this paper**

QUESTION ONE (COMPULSORY)

(a) Define the following terms as used in computer programming

    i. Machine dependence **[2 Marks]**

    ii. Design tool **[2 Marks]**

    iii. Object Oriented Analysis and Design **[2 Marks]**

(b) What is meant by program portability? Why are low-level languages not considered to be portable **[3 Marks]**

(c) With an Aid of an illustration differentiate between an algorithm and Pseudo code **[6 Marks]**

(d) Briefly explain the differences between an Interpreter and a compiler. **[6 Marks]**

(e) State any *FOUR* features of OOPS. **[4 Marks]**

2. QUESTION TWO

(a) Coding describe *THREE* types of errors that are encountered during testing and compilation of a program. **[6 Marks]**

(b) Outline *FIVE* characteristics of a good program **[5 Marks]**

(c) Define the term structured programming and List its *THREE* advantages. **[5 Marks]**

3. QUESTION THREE

(a)Briefly describe the development of programming language from machine to 5th generation language. **[10 Marks]**

(b) Give *FIVE* characteristics of procedure-oriented language. **[5 Marks]**

4. QUESTION FOUR

(a) It is a common programming practice to break a large program into modules:-

Required:-

    i. Explain the term modular programming **[2 Marks]**

    ii. Outline **FOUR** advantages of module programming **[4 Marks]**

5. **QUESTION FIVE**

   (a) Explain the following basic concepts of OOS

      i. Classes

      ii. Data abstraction

      iii. Encapsulation

      iv. Inheritance

      v. Polymorphism   **[15 Marks]**

6. **QUESTION SIX**

   (a) Describe the stages that are involved during Program Development Life Cycle (PDLC).

                                                            [12 Marks]

   (b) State THREE features of Unified Modeling Language (UML).   **[3 Marks]**