GARISSA UNIVERSITY

UNIVERSITY EXAMINATION 2017/2018 ACADEMIC YEAR <u>ONE</u> <u>THIRD</u> TRIMESTER EXAMINATION

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCE

FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

COURSE CODE: DIT 011

COURSE TITLE: SOFTWARE ENGINEERING

EXAMINATION DURATION: 2 HOURS

DATE: 10/08/18   **TIME: 9.00-12.00 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**

This paper consists of TWO (2) printed pages   *please turn over*

QUESTION ONE (COMPULSORY)

    a. Describe **five** qualities of a good software   **[8 Marks]**

    b. Define **software**   **[2 Marks]**

    c. State the **two** major types of computer software giving examples   **[4 Marks]**

    d. What is a **software product**   **[2 Marks]**

    e. Describe **three** types of software product   **[6 Marks]**

    f. Define a **bespoke** product giving one example   **[3 Marks]**

QUESTION TWO

    a. Give **four** differences between program and product   **[4 Marks]**

    b. Define **Software Engineering** according to **IEEE**   **[2 Marks]**

    c. State **six** factors that led to the emergence of software engineering   **[6 Marks]**

    d. With a suitable example, define an **embedded product**   **[3 Marks]**

QUESTION THREE

    a. Describe **four** qualities of a good software engineer   **[8 Marks]**

    b. What is a **program?**   **[2 Marks]**

    c. What is **software crisis**?   **[2 Marks]**

    d. List **three** types of system users   **[3 Marks]**

QUESTION FOUR

    a. What is a **generic** product   **[2 Marks]**

    b. Describe **four principles** of software engineering   **[8 Marks]**

    c. List the four key characteristics of a software product   **[4 Marks]**

    d. Who is a **software engineer?**   **[1 mark]**

QUESTION FIVE

    a. Define a **software process**   **[2 Marks]**

    b. Describe **four** software process activities   **[8 Marks]**

    c. List **five** software life cycle models   **[5 Marks]**

QUESTION SIX

    a. Describe the **waterfall model** using a well labeled diagram   **[10 Marks]**

    b. List **two** instances in which a prototype model is preferred   **[2 Marks]**

    c. List three types of feasibility study carried out during system development   **[3 Marks]**