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 IN INFORMATION SCIENCE

COURSE CODE: DIT 026

COURSE TITLE: INFORMATION SYTEM ENGINEERING

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)

1.

(a) Explain the term information system **[2 Marks]**

(b) In the context of information systems, state the nine characteristics of a system. An information system is essentially a group of components working together to capture and deliver information to users.

    i. What are these components? **[3 Marks]**

(c) Define the following terms as used during systems analysis project

    i. Prototyping **[2 Marks]**

    ii. fact-finding **[2 Marks]**

(d) What is a system changeover? State any **FOUR** methods of system changeover and explain their application **[4 Marks]**

(e) The waterfall model applied to system analysis and design project has a number of limitations or preferably, criticisms. Explain any **FOUR** **[4 Marks]**

(f) Explain the characteristics of the following types of Information System

    i. MIS

    ii. DSS **[8 Marks]**

2.

(a) Information is required both for strategic decision making and for operational purposes. Explain, with examples, how strategic information differs from operational information. **[10 Marks]**

(b) Clearly explain the term information systems security and list the main goals of IS security **[5 Marks]**

3.

(a) Managing I.T. infrastructure poses both opportunities and challenges. Explain the different opportunities of managing I.T. infrastructure. **[7 Marks]**

(b) Information systems are vulnerable to several threats. Explain the different common threats against contemporary Information systems. **[8 Marks]**

4.

(a) It is sometimes claimed that there are Three organizational levels; operational, management and strategic.

    i. For EACH of these organizational levels, give a brief description of its position in the management hierarchy. **[5 Marks]**

    ii. Explain the Information System and the types of decision made at each level. **[10 Marks]**

5.

(a) Evaluate any three major causes of information systems failure. **[3 Marks]**

(b) Identify and describe six ethical principles **[12 Marks]**

6.

(a) Explain the key technological trends that heighten ethical concerns **[5 Marks]**

(b) The system development life cycle, SDLC, is principally a seven stages process. Describe this cycle. **[10 Marks]**