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**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2020/201 ACADEMIC YEAR ONE**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF SCHOOL OF PURE AND APPLIED SCIENCES**

**DIPLOMA IN INFORMATION TECHNOLOGY**

**COURSE CODE: DIT 009**

**COURSE TITLE: SYSTEM ANALYSIS AND DESIGN**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 24/08/2021 TIME: 12.00-2.00 PM**

**INSTRUCTION TO CANDIDATES**

* **The examination has FIVE (5) questions**
* **Question ONE (1) is COMPULSORY**
* **Choose any other TWO (2) questions from the remaining FOUR (4) 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)**

1. Distinguish between a computer program and an information system. (4marks)
2. State **four** characteristics of a good information system. (2marks)
3. State **six** characteristics of Executive Support Systems. (3marks)
4. Define the term system theory. (2marks)
5. Identify the **three** levels of the organizational hierarchy and state the types of information systems that serve each level. (8marks)
6. Explain **three** types of feasibility. (6marks)
7. Discuss **five** objectives of system analysis. (5 Marks)

**QUESTION TWO**

1. Name the **three** methods/techniques which are used for developing computer based systems. (3marks)
2. State **four** guidelines of system testing. (4marks)
3. With the aid of a diagram explain the system development life cycle. (10marks)
4. Highlight **three** roles of a system analyst. (3 Marks)

**QUESTION THREE**

1. Differential between structured analysis and object-oriented analysis. (3marks)
2. Explain **five** types of systems. (10marks)
3. Define the term system controls. (2marks)
4. Discuss **five** fact finding techniques. (5 Marks)

**QUESTION FOUR**

1. Differentiate between *cybernetic* and *deterministic* system stating an example in each case. (2marks)
2. With the aid of a flowchart, describe the process of developing a system using type 1 *prototype*. (8marks)
3. Draw a decision table for the following statement; (4marks)

**“If it rains or predicted, carry an umbrella”.**

1. Explain **three** major aspects involve in implementation of a system. (6 Marks)

**QUESTION FIVE**

1. Consider the problem of obtaining money from an ATM cash machine. You need to determine that the user of the ATM is a valid user, and that the user of the ATM has enough money in their account to complete the transaction.
   1. Draw a context diagram of the ATM system. (5marks)
   2. Draw a data flow (level 1) diagram to illustrate the logical flow of data and the processes necessary for the transaction. (10marks)
2. Differentiate between soft system thinking and Hard thinking system. (5marks)