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**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2020/2021 ACADEMIC YEAR ONE**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF PURE AND APPLIED SCIENCES**

**FOR THE DEGREE OF BACHELOR OF INFORMATION SCIENCE**

**COURSE CODE: COM 120**

**COURSE TITLE: SYSTEM ANALYSIS AND DESIGN**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 24/08/2021 TIME: 09.00-11.00 AM**

**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. Explain the following terms
   1. System analysis (2marks)
   2. System design (2marks)
   3. System auditing (2marks)
2. Explain two roles of each of the following personnel
   * 1. System user (2marks)
     2. System auditor (2marks)
     3. Quality assurance (2marks)
3. Explain three types of feasibility study (6marks)
4. Explain the advantages of program modularization (6marks)
5. Explain three characteristics of a good information system. (6marks

**QUESTION TWO**

The library activities are manual and to improve the efficiency in service delivery library management system is proposed.

1. Explain the advantages of computer based system (6marks)
2. Explain the challenges in data collection and suggest how you will conquer them (6marks)
3. Explain the activities in SDLC if they adopt the model (8 marks)

**QUESTION THREE**

1. Differentiate between
   1. coupling and cohesion (4marks)
   2. logical design and physical design (4marks)
2. Explain the reasons why auditing is performed in systems (6marks)
3. 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. Draw a data flow diagram to illustrate the logical flow of data and the processes necessary for the transaction. (6marks)

**QUESTION FOUR**

1. Explain the various types of system documentation (6marks)
2. Explain the following design tools in software development
   1. Data Flow Diagrams (3marks)
   2. Data Dictionary (3marks)
3. A technical support company writes a decision table to diagnose printer problems based upon symptoms described to them over the phone from their clients. The symptoms include Printer does not print, a red light is flashing and Printer is unrecognized. The actions include Check the power cable and Check the printer-computer cable. Develop a decision table for this segment. (8marks)

**QUESTION FIVE**

1. Differentiate the following terms (6 marks)
   * 1. Adaptive and Non Adaptive System
     2. White box testing and black box testing
     3. Auditing around a computer and auditing through a computer
2. Explain three reasons for training the users during system implementation (6 marks)
3. Discuss the three categories of information related to managerial levels and the decision managers make in each level using a diagram (8marks)