

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DIPLOMA IN COMPUTER SCIENCE

COSC 0130: SYSTEM ANALYSIS AND DESIGN

STREAMS: DIP. COMPSCI Y1S2

TIME: 2 HOURS

DAY/DATE: TUESDAY 09/04/2019

11.30 A.M – 1.30 P.M

INSTRUCTIONS:

- Answer question **ONE** and **TWO** other questions
- Do not write anything on the question paper
- This is a **closed book exam**, No reference materials are allowed in the examination room
- There will be **NO** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely.
- Marks are awarded for clear and concise answers.

QUESTION ONE (30 Marks)

- a. A system is a set of related components that produces specific results. State and explain **FOUR** components that make up an information system. (5 Marks)
- b. No system can be successful without proper training. Briefly explain each of the following training methods. (6 Marks)
 - i. Webinar
 - ii. Podcast
 - iii. Tutorial
- c. Explain **THREE** types of systems development tools (6 Marks)
- d. Define each of the following terms as used in system design (6 Marks)
 - i. Auditing

- ii. Normalization
- iii. System Requirement
- e. Explain the relevance of a contract document in systems development (3 Marks)
- f. Briefly describe FOUR guidelines for the design of user interfaces (4 Marks)

SECTION B (Answer any TWO questions)

QUESTION TWO (20 Marks)

- a. A systems request must pass several tests known as a feasibility study. Discuss FOUR main types of feasibility studies that have to be conducted by a systems analyst (8 Marks)
- b. Define the term Integrity Constraint. Discuss THREE types of integrity constraints. (6 Marks)
- c. A student enrolled for a Diploma in Computer Science at ABC university through the following process. He/she is assigned an advisor who helps in filling the Registration form. The student submits the form to the Registrar who upon approval allows the student to register for classes. An instructor is tasked with ensuring that the student attends classes, evaluate him/her and submit the grades. Draw a use-case diagram for a student records system for ABC university. (6 Marks)

QUESTION THREE (20 Marks)

- a. State and explain SEVEN major steps of the systems development lifecycle (14 Marks)
- b. Interviewing is an important fact-finding tool during the systems analysis phase. List SIX critical steps required for a successful interview (6 Marks)

QUESTION FOUR (20 Marks)

- a. With the aid of a diagrams, describe FOUR major system changeover methods (8 Marks)
- b. Briefly explain FOUR characteristics of system obsolescence (4 Marks)
- c. Systems design tasks typically are performed in a four-step process. Discuss this process in detail. (8 Marks)

QUESTION FIVE (20 Marks)

- a. Discuss THREE interrelated aspects of systems security (6 Marks)
- b. Documentation includes program documentation, system documentation, operations documentation, and user documentation. Briefly describe each type of documentation. (8 Marks)

c. State and explain THREE skills that a system analyst should possess

(6 Marks)
