CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

EXAMINATION FOR THE AWARD OF DIPLOMA IN COMPUTER SCIENCE

COSC 0130: SYSTEM ANALYSIS AND DESIGN

STREAMS: DIP. COMP SCI Y1S2   **TIME: 2 HOURS**

DAY/DATE: MONDAY 01/11/2021   **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. (4 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. Briefly explain the following concepts as related to system analysis (6 Marks)
        i. Scalability
        ii. System Requirement

    iii. Critical Path

e. Explain the relevance of a contract document in systems development.   (3 Marks)

f. Briefly explain FIVE signs of system obsolescence.   (5 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. Systems analysts should focus on the larger, strategic role of IT as they carry out their day-to-day responsibilities. With the aid of a well-labelled diagram define strategic planning.
    (4 Marks)

c. State and explain FOUR system changeover strategies.   (8 Marks)

QUESTION THREE (20 Marks)

a. Every IT project involves risks that systems analysts and project managers must address.

    i. Define the term Risk Management   (4 Marks)

    ii. State and explain FIVE steps in Risk Management   (10 Marks)

b. Interviewing is an important fact-finding tool during the systems analysis phase. List six steps required for a successful interview   (3 Marks)

c. The Agilian modelling toolset includes support for modelling tools. List any THREE supported modelling tools.   (3 Marks)

QUESTION FOUR (20 Marks)

a. Because information systems affect people throughout an organization, you should consider team-oriented strategies as you begin the systems analysis phase. State and explain THREE team-oriented strategies, giving ONE advantage and ONE disadvantage of each.   (9 Marks)

b. 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. (7 Marks)

c. Distinguish between structured analysis and object-oriented analysis (4 Marks)

QUESTION FIVE (20 Marks)

a. State and explain any THREE main functions of an IT department. (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)