"Investing in Africa's Future"

COLLEGE OF ENGINEERING AND APPLIED SCIENCES

NCIS 209: FOUNDATIONS OF INFORMATION SYSTEMS

END OF SEMESTER EXAMINATIONS

NOVEMBER 2025

LECTURER: MR J. CHINZVENDE

TIME: 3 HOURS

INSTRUCTIONS

Answer questions instructed in each section

Start **each** question on a new page.

The marks allocated to **each** question are shown at the end of the section.

Answer all questions in Section A and Chose Two (2) in section B

Credit will be awarded for logical, systematic and neat presentations.

Section A [Answer all]

Question One
Define the following terms as they are used in Information Systems
   a. Data
   b. Big Data
   c. Information
   d. Business Process   **[10]**

Question Two
Differentiate between the following terms in Software Engineering?

a.   Software and Hardware
b.   E-commerce and. E-business
c.   Cybersecurity and. Information Security
d.   User Interface (UI) and User Experience (UX)
e.   Database and Database Management System (DBMS)   **[10]**

Question Three

a. Evaluate the impact of cloud computing on the design and implementation of
   information systems.   **[5]**
b. Discuss the benefits and challenges associated with cloud-based solutions in
   comparison to traditional on-premises systems.   **[5]**

Question Four
a. Explain the significance of data management in information systems.   **[5]**
b. Discuss the processes involved in data collection, storage, retrieval, and
   analysis, and how they affect the quality of information produced.   **[5]**

Question Five
a. Speculate on the future trends in information systems, considering emerging
   technologies such as artificial intelligence, machine learning, and the Internet of
   Things (IoT).   **[5]**
b. Discuss how these trends might reshape the landscape of information systems. **[5]**

SECTION B [Answer any 2(Two)]

Question Six
Africa University wants to automate its Inventory Management System.

c. Describe the key components of an information system that would support this automation**.**   **[10]**
d. Explain how data flow diagrams (DFDs) could be used to visualize the inventory management process giving examples.   **[10]**
e. Discuss the potential challenges the company might face when implementing this information system.   **[05]**

Question Seven
Africa University Canteen seeks to improve its customer relationships through a Customer Relationship Management (CRM) system.

a. Identify the main functionalities that a CRM system should have to enhance customer relationships.   **[10]**
b. Discuss how the implementation of a CRM system can lead to better decision-making in marketing strategies.   **[10]**
c. What data privacy considerations should be considered when implementing a CRM system?   **[05]**

Question Eight
Stanbic Bank is looking to enhance its information security measures.

a. Identify the main threats to information security that the institution should be aware of.   **[10]**
b. Discuss the importance of establishing a security policy and what key elements it should include.   **[10]**
c. Explain how employee training can contribute to the overall security posture of the organization.   **[05]**

END OF EXAMINATION