CHUKA   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN APPLIED COMPUTER SCIENCE

ACSC 101: INTRODUCTION TO INFORMATION TECHNOLOGY

STREAMS: BSC (APPLIED COMPUTER SCIENCE) Y1S1   TIME: 2 HOURS

DAY/DATE: MONDAY 17/12/2018   8.30 A.M. – 10.30 P.M

INSTRUCTIONS:
- **ANSWER QUESTION 1 AND ANY OTHER TWO**

SECTION A: Answer all questions in this section
QUESTION ONE (30 Marks)

a) Digital computers represent data as a sequence of bits (0s or 1s). Explain the reason behind this phenomenon.   **[3 marks]**

b) Describe the idea behind the organization of computer memory in a hierarchy.
                                                                                [3 marks]

c) Identify the main functions of a computer.   **[2 marks]**

d) Clearly distinguish between **OLAP** and **OLTP** giving an example for each. **[4 marks]**

e) Outline the salient features of an efficient Transaction Processing System.   **[5 marks]**

f) Using clear examples, explain the focus of IT Management in organizations. **[3 marks]**

g) The computing revolution has led to the automation of almost all industrial processes today. Briefly discuss any **TWO** modern automation tools.   **[4 marks]**

h) Describe the purpose of Queries in database management system.   **[3 marks]**

i) Outline any **THREE** reasons for building computer networks.   **[3 marks]**

SECTION B (Answer any TWO questions from this section)
Question Two (20 marks)

a) Giving examples, clearly distinguish between **BATCH** and **REAL TIME** data processing modes. **[6 Marks]**

b) Outline the advantages of databases. **[4 marks]**

c) With the aid of a diagram, describe the logical architecture of a computer system.

[6 marks]

d) Differentiate between the operating system and utility programs. **[4 marks]**

Question Three (20 marks)

a) Giving reasons, explain the most appropriate scheme of acquiring business management software such as Payroll Systems. **[4 marks]**

b) Describe **TWO** major features each for Spreadsheet applications and Word Processors that make them suitable for their functions. **[4 marks]**

c) Citing examples, explain any three functions of IT. **[6 marks]**

d) Discuss the functional differences between DSS and TPS. **[6 marks]**

Question Four (20 marks)

a) Distinguish between Tables, Forms and Records as used in DBMS. **[6 marks]**

b) Explain the stored program concept clearly highlighting the function of each hardware involved in this concept. **[6 marks]**

c) Differentiate between network Protocols and Topologies as used in computer networks giving **TWO** examples for each. **[4 marks]**

d) Differentiate between **DATA** and **ADDRESS** lines of the system bus. **[4 marks]**

Question Five (20 marks)

a) Giving examples discuss the difference between magnetic and semi-conductor technology in the production of memory devices. **[6 marks]**

b) High performance computing and the internet have seen the development of IT based solutions reshaping modern business approaches. Discuss any **TWO** such solutions. **[4 marks]**

c) Differentiate between the Binary and Hexa-Decimal number formats and how they are used in modern computers. **[6 marks]**

d) Outline the differences between main and auxiliary memory. **[4 marks]**