



(KNOWLEDGE FOR DEVELOPMENT)

**KIBABII UNIVERSITY
(KIBU)**

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS
FIRS YEAR FIRST SEMESTER**

**FOR THE DEGREE IN
(INFORMATION TECHNOLOGY)**

COURSE CODE: BIT 112

COURSE TITLE: INFORMATION TECHNOLOGY FUNDAMENTALS

DATE: 29/09/2021

TIME: 2.00 P.M-4.00 P.M

INSTRUCTIONS

ANSWER QUESTIONS ONE AND ANY OTHER TWO

QUESTION ONE (COMPULSORY) [30 MARKS]

- a) What is meant by the term Operating system? [2 Marks]
- b) Discuss **FOUR** types of operating systems. [8 Marks]
- c) Assume you are working in an IT consultancy company, using an appropriate example, with reference to the current IT trends, justify whether an Input device can as well double up as an output device. [2 Marks]
- d) Give **THREE** advantages of High-Level Languages to Machine-Language [3 Marks]
- e) ROM is a non-volatile memory chip. State **THREE** types of ROM [3 Marks]
- f) Differentiate between the following concepts and acronyms [10 Marks]
- Data and Information
 - Computer Software and Computer Program
 - Bit and Nibble
 - Primary memory and Secondary memory
 - COMPUTER as an acronym
- g) Can a computer System be able to work without an Operating System? Give your argument. [2 Marks]

QUESTION TWO [20 MARKS]

- a) Differentiate between the following terms as used in data communication.
- Internet and WWW. [2 Marks]
 - Network and Network Topology. [2 Marks]
- b) Illustrate the structure of a computer system as proposed by the Von Neumann architecture. [4 Marks]
- c) Using relevant examples, discuss **FOUR** criteria of computer classification. [8 Marks]
- d) Add 10111_2 to 11111_2 [4 Marks]

QUESTION THREE [20 MARKS]

- a) Explain factors that affects the nature of software and hardware to stall on a computer system. [4 marks]
- b) You are the director of ICT in Mawazo University. ABZ is in the process of procuring input devices for the computer lab. As a director, recommend any **FOUR** major input device technologies from the supplier. [8 Marks]
- c) Computers can be classified into various categories based on size, speed, functionality, and purpose. Using relevant examples, discuss these criteria. [4 Marks]
- d) Explain **FOUR** advantages associated with hybrid network topology. [4 Marks]

QUESTION FOUR [20 MARKS]

- a) Discuss **FIVE** ways in which computers have impacted our daily lives. [10 Marks]
- b) Discuss **FIVE** generations from which computers have evolved. [10 Marks]

QUESTION FIVE [20 MARKS]

- a) There are mainly **FOUR** number systems. Each number system supports a specific number of symbols referred to as `base`. Give the base of each of the four number systems. [2 Marks]
- b) Discuss the functional components of a computer processor. [6 Marks]
- c) Given $AFD_8 \rightarrow X_8 \rightarrow Y_{10}$, Find the values of X and Y. [4 Marks]
- d) Add 00111_2 to 11011_2 [2 Marks]
- e) Calculate the **2's Complement** of the following binary number 10111010_2 [2 Marks]
- f) Convert 514_{10} to its decimal equivalent? [4 Marks]