



[Knowledge for Development]

KIBABII UNIVERSITY

[KIBU]

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS
YEAR TWO SEMESTER ONE EXAMINATIONS**

**FOR THE DEGREE IN
COMPUTER SCIENCE**

**COURSE CODE : CSC 212
COURSE TITLE : COMPUTER
ARCHITECTURE**

DATE: 22/07/2022

TIME: 11:00 A.M – 01:00 P.M.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE [COMPULSORY] [30 MARKS]

- a. What do you understand by the term Bus? [1 mark]
- b. If a great number of devices are connected to the bus, performance will suffer. Explain the two causes. [4 marks]
- c. Discuss the two basic tasks performed by a microprogrammed control unit [4 marks]
- d. Using a diagram describe how two devices i.e. A and B can be arbitrating for the bus [6 marks]
- e. A user-visible register is one that may be referenced by means of the machine language that the processor executes. Discuss [8 marks]
- f. Using diagrams discuss the fetch cycle [7 marks]

QUESTION TWO [20 MARKS]

- a. As a computer science student describe the Key design issues in X86 instruction formats. In your own understanding discuss the requirements placed on the processor and the things that it must do. [10 marks]
- b. Differentiate the characteristics between CISC and RISC [10 marks]

QUESTION THREE [20 MARKS]

- a. Explain what you understand by instruction pipelining [10 Marks]
- b. Differentiate between X86 ADDRESSING MODES and ARM Addressing Modes [8 marks]
- c. Explain what you understand by PHERIPHERAL COMPONENT INTERCONNECT. [2 marks]

QUESTION FOUR [20 MARKS]

- a. List and explain any Five most common addressing techniques that you understand [10 marks]
- b. Describe an instruction cycle [10 marks]

QUESTION FIVE [20 MARKS]

- a. Discuss the Instruction Cycle [8 marks]
- b. With the aid of a block diagram discuss the Control Unit with the logic required to perform its sequencing and execution functions. [10 marks]
- c. Differentiate between machine language and assembly language. [2 marks]