



*(Knowledge for Development)*

**KIBABII UNIVERSITY**  
**(KIBU)**

**UNIVERSITY EXAMINATIONS**  
**2020/2021 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS**  
**YEAR TWO SEMESTER ONE EXAMINATIONS**

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

**COURSE CODE : BIT 213**

**COURSE TITLE : PLATFORM TECHNOLOGIES II**

**DATE: 15/06/2021**

**TIME: 9.00 A.M. – 11.00 A.M**

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**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTIONS ONE AND ANY OTHER TWO.**

### QUESTION ONE [30 MARKS]

- a) Define the following terms as used in computer systems:
- i) computer architecture [2 marks]
  - ii) computer organization [2 marks]
  - iii) structure [2 marks]
  - iv) function [2 marks]
- b) Explain how the following components affects computer performance [4 marks]
- i) Data bus
  - ii) Interrupt
- c) Each instruction must contain the information required by the CPU for execution. Each instruction format consists of two components. State and explain the components [4 Marks]
- d) State the differences between Register and Register indirect addressing modes [4 Marks]
- e) State any four characteristics used to differentiate computer memory [4 Marks]
- f) Using a diagram explain the computer memory hierarchy considering speed of access, capacity and pricing [6 Marks]

### QUESTION TWO [20 MARKS]

- a) Discuss three memory performance parameters [10 Marks]
- a) Three techniques are possible for I/O operations. State and explain these techniques. [10 Marks]

### QUESTION THREE [20 MARKS]

- b) Define the terms Spatial locality [2 marks]
- c) Discuss any four file access methods [8 Marks]
- d) State and explain two types of control unit [4 Marks]
- e) Describe how Interleaved Memory improves computer performance [8 Marks]

### QUESTION FOUR [20 MARKS]

- a) Describe the fetch execute cycle with the aid of a diagram listing the registers and buses involved [9 Marks]

- b) When there is no space for a particular index in the cache, one of the two data values stored under that index will be replaced according to some predetermined replacement policy. State and explain any four replacement policy. **[8 Marks]**
- c) State the three main components the Von Neumann Architecture **[3 Marks]**

**QUESTION FIVE [20 MARKS]**

- a) List the three broad classifications of external devices. **[3 marks]**
- b) Name the five major functions of an I/O module. **[5 marks]**
- c) When a device interrupt occurs, how does the processor know which device issued the interrupt? **[6 marks]**
- d) Differentiate between CISC and RISC **[6 marks]**