

**W1-2-60-1-6**

## JOMO KENYATTA UNIVERSITY

**OF**

**AGRICULTURE AND TECHNOLOGY**

# University Examinations 2015/2016

**FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**BIT 2102 : COMPUTER SYSTEMS AND ORGANIZATION**

**DATE: DECEMBER 2015 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER**

**TWO QUESTIONS.**

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**QUESTION ONE (30 MARKS)**

1. Explain the meaning of the following terms: [12 marks]
2. BIOS
3. RISC
4. EEPROM
5. ROM BIOS
6. Define volatile memory and give an example. [3 marks]
7. List any three basic functions of an operating system. [3 marks]
8. Convert 14 into its binary equivalent. [2 marks]
9. List any two features of each of the five computer generations. [10 marks]

**QUESTION TWO (20 MARKS)**

(a) Distinguish between data and information. [4 marks]

(b) Using a suitable example, distinguish between hardware and software. [6 marks]

(c) Explain the functions of five basic components of a computer system. [10 marks]

**QUESTION THREE (20 MARKS)**

1. Define a sector. [2 marks]
2. What is fragmentation and how does it affect system performance? [6 marks]
3. How can fragmentation be countered? [4 marks]
4. Explain the meaning of MBR. [4 marks]
5. What does it mean when the hard disk has a head crash? [6 marks]

**QUESTION FOUR (20 MARKS)**

1. What is Direct Memory Access? [6 marks]
2. Giving examples, differentiate between volatile and non-volatile memory. [4 marks]
3. Explain the term virtual memory and give one advantage of it. [5 marks]
4. Describe RAM and give an advantage of RAM over hard disk. [5 marks]

**QUESTION FIVE (20 MARKS)**

1. Name and describe briefly any five application areas of computers. [15 marks]
2. State two features of supercomputers. [2 marks]
3. State three features of mainframe computers. [3 marks]