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**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2018/2019 ACADEMIC YEAR THREE**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF INFORMATION SCIENCE AND TECHNOLOGY**

**FOR THE DEGREE OF BACHELOR OF INFORMATION SCIENCE**

**COURSE CODE: COM 310**

**COURSE TITLE: COMPUTER ARCHITECTURE**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 03/02/2020 TIME: 2.00-4.00 PM**

**INSTRUCTION TO CANDIDATES**

* **The examination has FIVE (5) questions**
* **Question ONE (1) is COMPULSORY**
* **Choose any other TWO (2) questions from the remaining FOUR (4) questions**
* **Use sketch diagrams to illustrate your answer whenever necessary**
* **Do not carry mobile phones or any other written materials in examination room**
* **Do not write on this paper**

**This paper consists of TWO (2) printed pages *please turn over***

**QUESTION ONE (COMPULSORY)**

1. What do you understand by computer architecture **[2 marks]**
2. Distinguish between computer system Architecture and computer architecture **[8 marks]**
3. Draw a microprocessor system showing the buses connection. **[8 marks]**
4. Explain five types of instructions in a computer **[5 marks]**
5. State and describe the three classes of computer instructions **[7 marks]**

**QUESTION TWO**

1. Describe using a diagram the components of a computer processor **[15 marks]**
2. Define a computer register and state and explain three types of registers. **[5 marks]**

**QUESTION THREE**

1. Describe the working of the fetch/execute cycle. **[15 marks]**
2. What is an interrupt. Describe the mechanism of interrupt handling **[5 marks]**

**QUESTION FOUR**

1. State and explain five examples of addressing modes. **[10 marks]**
2. What is an instruction cycle. Explain its stages? **[10 marks]**

**QUESTION FIVE**

1. Show the mnemonics for adding decimal 23 and 45 the answer is to be stored at memory location 55600H. The answer is incremented by one and stored in the C register **[15 marks]**
2. State and explain three types of operating system **[5 marks]**