



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2022

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

REGULAR PROGRAMME

CMT 436: SECURITY AND PRIVACY FOR BIG DATA

Date: APRIL 2022

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any TWO Questions

Q1.

- a) Define the following terms in the context of Security and privacy of Big Data **(8 Marks)**
- Big data
 - Privacy
 - Security
 - Homomorphic Encryption
 - Secure Multi-Party Computation
 - Hadoop Security
- b) Explain the 3V's properties of big data **(6 Marks)**
- c) Compare privacy and security as applicable in the subject of Security and Privacy of Big Data **(6 Marks)**
- d) Define the following terms and explain your understanding of the terms in relation to Big Data **(5 Marks)**
- e) Differentiate between IP address and MAC address **(5 marks)**

Q2.

a) Discuss Ways of ensuring consumer privacy

(15 Marks)

Q3. As a newly appointed Data officer, you have been tasked look into privacy-preserving analysis for big data using cryptographic tools. Discuss Encryption-Based techniques for Privacy Preserving Data Mining

(15 Marks)

Q4. What is acronym for IoT. Using diagrammatic representation, discuss the Architecture of IoT for Big Data Analytics

(15 Marks)

Q5. Blockchain can be roughly divided into three categories. Discuss

(15 Marks)

END