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University Examinations 2024/2025

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

CIT 3451: PROFESSIONAL AND ETHICAL ISSUES IN INFORMATICS

DATE: JANUARY 2025

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a. Define professional ethics and explain its importance in the field of computing
(3marks)
- b. Define the concept of consent in the context of the Data Protection Act. (3marks).
- c. Highlight the concepts of confidentiality and privacy in the context of computing.
(2marks).
- d. Briefly describe the ethical responsibilities of computing professionals in maintaining cybersecurity. (3marks)
- e. Define ethical standards siting its role in professional and ethical issues in computing
(3marks).
- f. Differentiate "personal information" and "sensitive personal information" (4marks)
- g. Identify and briefly explain the key actors as defined by the Data Protection Act.

- (3marks)
- h. ' Define intellectual property rights and their significance in computing. (3marks)
- i. Identify any three key aspects as provided by the Kenya Data Protection Act 2019
(3marks)
- j. Define Privacy Enhancement Technologies (3marks)

QUESTION TWO (20 MARKS)

- a. Discuss any four key data protection principles
(8marks)
- b. Discuss any two legal requirements that must be met when transferring personal data to countries outside of the data subject's home country (4 marks)
- c. Discuss any four ways of improving reliability and safety in usage of computer technology
(8 marks)

QUESTION THREE (20 MARKS)

- a) Discuss any three data subject rights (6 marks)
- b) Discuss any three data controller/ data processor obligations (6 marks)
- c) Describe the key components of a data transfer agreement. How do these agreements ensure compliance with data protection regulations (8 marks)

QUESTION FOUR (20 MARKS)

- a. Discuss four categories of Privacy Enhancement Tools (PETS) (8marks).
- b. One of the privacy risk dimensions is the Privacy of Association. With examples, discuss the aspect of "privacy of association" (6 marks).
- c. Discuss any three impacts of data breaches (6 marks)

QUESTION FIVE (20 MARKS)

- a) Person A (data subject) living in Kenya wants to buy shoes (contractual obligation) from an online shop (recipient) operated by a company in the USA. To complete his order, he provides his personal data like name, contact, and credit card information to the online store.
- i. Does this constitute to a cross border data transfer? (2marks)

- ii. Who is the data controller in this case and what are the obligations of the data controller (4marks)
- iii. Is there any consent for the data subject to share his information? Explain (4 marks).
 - b) Identify ethical challenges associated with emerging technologies such as artificial intelligence, blockchain, or biotechnology (6 marks)
 - c) Explain two reasons that could make an sider breach confidentiality of a company's data. (4 marks)