



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

**UNIVERSITY EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
IN INFORMATION TECHNOLOGY SECURITY AND AUDIT**

1ST YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR

KISUMU CAMPUS

COURSE CODE: IIT 6115

**COURSE TITLE: ORGANIZATIONS CORPORATE COMPUTER AND
NETWORK SECURITY**

EXAM VENUE: STREAM: PHD IN IT SECURITY AND AUDIT

DATE: EXAM SESSION: SEPTEMBER – DECEMBER, 2018 SEMESTER

TIME: 3.00 HOURS

INSTRUCTIONS:

- 1. Answer ANY other three questions**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION 1: {20 MARKS}

- a) When does a person become an information security risk? (3 Marks)
- b) Vendors and / or Subcontractors are sometime considered risk. Discuss?
(10 Marks)
- c) Discuss some of the practical controls that can be put in place to minimize the risk?
(7 Marks)

QUESTION 2: {20 MARKS}

- a) Communication risk is a category of information risk. Clearly, discuss the nature of this type of risk? (6 Marks)
- b) *Operational Risk* is the risk associated with preservation of data, authenticity of data, sending/receiving, sharing data and media handling. Discuss the practical controls that can be put in place to address operational related risks? (14 Marks)

QUESTION 3: {20 MARKS}

- a) Countermeasures used to thwart various kinds of IT attacks can be technical, human, or (most commonly) a mixture of the two. These countermeasures can be further classified into various types. Identify and briefly discuss these types. (5 Marks)
- b) What are the major categories of driving forces that a company must consider for the future? (5 Marks)
- c) Viewing the security function as a police force or military organization is considered a bad idea and may be detrimental to the entire security of an

Information Technology. Discuss this statement, giving your view point?

(10 Marks)

QUESTION 4: {20 MARKS}

a) One of the staff members of the organization you work for subscribes to a number of free IT magazines. Among the questions she was asked in order to activate her subscriptions, one magazine asked for her month of birth, a second asked for her year of birth, and a third asked for her mother's maiden name. Discuss what you think might be going on here? (6 Marks)

b) Many security specialists are unhappy with the simplistic CIA (*Confidentiality, Integrity and Accountability*) goal taxonomy because they feel that companies have many other security goals. However, the CIA goals are a good place to begin thinking about security goals. Suppose you are the Lead Specialist in your organization and you are therefore tasked to establish IT security measures. Discuss how you can use CIA goal taxonomy to achieve in your role? (14 Marks)

QUESTION 5: {20 MARKS}

a) Biometrics is a type of authentication that relies on measurable physical characteristics that can be automatically checked, and is becoming more popular and demanded. Identify and discuss the major elements of biometrics. (10 Marks)

b) As with any other technologies, biometrics has its own advantages and disadvantages. Identify and discuss conclusively advantages and disadvantages of biometrics. (10 Marks)