



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR SCIENCE IN  
INFORMATION TECHNOLOGY**

**4<sup>TH</sup> YEAR 2<sup>ND</sup> SEMESTER 2020/21 ACADEMIC YEAR**

**MAIN CAMPUS**

**SPECIAL/RESIT**

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**COURSE CODE: IIT 3421**

**COURSE TITLE: Information Warfare**

**EXAM VENUE: STREAM: BSc IT**

**DATE: EXAM SESSION:**

**TIME: 2.00 HOURS**

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**INSTRUCTIONS:**

- 1. Answer Question 1 (Compulsory) and ANY other two 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

- a) Define
- i) electronic warfare (2 marks)
  - ii) psychological warfare (2 marks)
- b) Explain the following terms as used in information assurance
- i) Non-repudiation (2 marks)
  - ii) Restoration (2 marks)
- c) Identify 4 vulnerabilities in an organization (4 marks)
- d) Briefly explain psychological operations in information warfare (2 marks)
- e) Differentiate between whaling attack and sql injection attack (4 marks)
- f) What is cross site scripting (XSS) attack (2 marks)
- g) Differentiate between cyber extortion and cyber terrorism (2 marks)
- h) SQL injection counter measures can be: defensive coding, detection and runtime prevention. Explain (6 marks)
- i) Differentiate between steganography and encryption (2 marks)

## Question 2

- a) Explain the following terms clearly stating their centre of attack
- i) Interception (2 marks)
  - ii) Fabrication (2 marks)
- b) List down any 4 components of information warfare (4 marks)
- c) Define
- i) Denial of service(dos) attack (2 marks)
  - ii) Social Engineering (2 marks)
- c) Explain the difference between hacking and ethical hacking (2 marks)

d) Give an analysis of 3 tools used in computer crime (6 marks)

### Question 3

a) Define

i) Honeypot (2 marks)

ii) Cross site scripting (XSS) attack (2 marks)

b) Economic espionage refers to unlawful targeting and theft of critical economic intelligence such as trade secrets and intellectual property

i) Define intellectual property (2 marks)

ii) Discuss any 3 methods of performing economic espionage (6 marks)

c) Discuss 4 tools used in defensive information warfare (8 marks)

### Question 4

a) Define

i) Chipping (2 marks)

ii) Electronic jamming (2 marks)

b) Discuss 4 tools used in perception management (8 marks)

c) Discuss 4 features included in network based intrusion detection system (8 marks)

### Question 5

a) Distinguish between host based and network based intrusion detection (2 marks)

d) How can a hacker attempt to attack a cryptosystem and how can an organization best defend itself against such an attack (8 marks)

e) Internal controls rely on the principle of checks and balances in the workplace. However, it can be expected to only provide reasonable assurance and not absolute assurance. Discuss (4 marks)

d) Briefly explain 3 items that constitute information warfare (6 marks)