



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATIONS 2015/2016**  
**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**  
**4<sup>TH</sup> YEAR 1<sup>ST</sup> SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF**  
**EDUCATION /BBA WITH IT**  
**MAIN – RESIT**

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**COURSE CODE: SCS 436**

**COURSE TITLE: INTERNAL CONTROL AND SECURITY ISSUES**

**EXAM VENUE: LAB 1**

**STREAM: (BSc )**

**DATE:06/05/16**

**EXAM SESSION: 11.30 – 1.30PM**

**TIME:2.00 HOURS**

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**INSTRUCTIONS:**

- 1. Answer ALL 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 ONE

- a) Define the following terms as used in security
  - i) Threat
  - ii) Exposure
  - iii) Information assets (3marks)
- b) Outline the importance of information security management (3marks)
- c) Discuss three main principles in security of information (6marks)
- d) Using a table discuss security classification of data in the organization (5marks)
- e) Read the statement below and answer the question that follows

If changes to the system code itself are not approved and tested properly, then we might find that the logic being executed by the code is erroneous. This might mean that we lose our confidence in the integrity of the data within the system, resulting in an inability to know for sure who has paid us and who hasn't. If access to the system is given to people who do not have a need for that access, then system data might be changed, added, or deleted inappropriately. If the system or its data were lost, then system functionality would be unavailable, resulting in a loss of your ability to track outstanding receivables or post new payments.

- i) Identify 6 internal controls that would mitigate the above mentioned risks? (13marks)

## QUESTION TWO [ 20 MARKS]

- a) Explain the THREE main categories of *internal controls* that applied to an organizational network security? Cite a practical example to support your answer. [6 Marks]
- b) The modern day businesses have embraced ICT as a catalyst to driving business. As with any investment in the business the twin issue of risk and return must always be addressed even in the case of acquisition of IT facilities. You have been invited as a consultant to:
  - i. Define the term risk (2marks)
  - ii. Six types of threats found in an ICT system (6marks)
- c) Identify respective defense mechanisms that can be used in; [6 Marks]
  - (i) Ping of Death
  - (ii) Trojan Horse
  - (iii) Pharming

### QUESTION THREE

A hospital, a Public listed Company, a University or an Immigration department within Government exists to achieve specific objectives. A hospital may have the objective of efficient and effective healthcare service to client's good reputation; a university offering quality education and higher enrolments, and the immigration department maintaining accurate and reliable records of aliens. In each case provide the following:

- a) Identify the possible critical processes and assets that enable the organization to achieve its goals (5marks)
- b) For each of the processes and assets, identify possible threats (5marks)
- c) For each of the threats recommend appropriate internal controls for mitigation indicating whether it is Preventive, detective, preventive or compensative and the mechanism to be used is administrative, technical or physical (10marks)

### QUESTION FOUR

- a) Explain the main types of IS audit (10marks)
- b) Differentiate between the following terms using examples
  - i) IS Auditing and Compliance Auditing (5marks)
  - ii) Internal Auditing and External Auditing (5marks)

### QUESTION FIVE

[20 MARKS]

- (a) Explain the THREE main categories of *internal controls* that applied to an organizational network security? Cite a practical example to support your answer. [6 Marks]
- (b) "Data classification is the conscious decision to assign a level of sensitivity to data". Do you disagree with this statement? Support your answer. [8 Marks]
- (c) Below is an incomplete table showing selected technology elements used in an organization. You are required to identify respective data contained in them and associated risks they expose the organization to. [6 Marks]

No.	Technology Element	Contained Data	Possible Risks
(i)	DVDs		
(ii)	Hard Drives		
(iii)	Management Information		

	System		
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