



Where Leaders are Made
UNIVERSITY EXAMINATIONS: 2025/2026

**END OF SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
BACHELOR OF BUSINESS AND INFORMATION TECHNOLOGY
BIT402|BSIT402**

INFORMATION SYSTEMS SECURITY & AUDIT

EXAM DATE: MONDAY 15TH DECEMBER 2025

TIME: 5:00PM-7:00PM

DURATION: 2 HOURS

INSTRUCTIONS: Question One is Compulsory, Choose Three Other Questions

SECTION A (COMPULSORY)

QUESTION ONE (15 Marks) Compulsory

- a) Discuss FOUR components of information security **[8 marks].**
- b) Your Audit firm has been awarded a tender to participate in auditing KUSSPS database on student's placement exercise in university placement for 2022.
 - i. Outline THREE key steps involved in planning an information systems audit for the same parastatal. **[6 marks].**
 - ii. Explain the concept of risk assessment in the context of information systems audits. **[1 marks]**

SECTION B:(ANSWER ANY THREE (3) QUESTIONS IN THIS SECTION)

QUESTION TWO (15 marks)

- a) Debate the significance of data availability and accessibility for information systems audits. **[6 marks]**
- b) How does the timely access to relevant data contribute to the efficiency of the audit process? **[6 marks]**
- c) All audits follow a similar sequence of activities and may be divided into four stages: (Planning, collecting evidence, evaluating evidence and Communicating audit results,

Discuss the metrics you would apply as an Auditor at the forementioned levels.

[4 marks]

QUESTION THREE (15 marks)

- a) Differentiate between sufficiency and competency of data as used in forensics audit investigations. **[6 marks]**
- b) Interpret the following concepts as used in Audit Engagements. **[9 marks]**
 - i. Materiality
 - ii. Irregularities
 - iii. Audit Staffing

QUESTION FOUR (15 marks)

- a) Discuss your understanding of SQL Injection and its remedials. **[5 marks]**
- b) *Dear Valued customer of PACU student Investment, we have received a notice that you recently attempted to withdraw the following amount from your students savings account in another town \$200. If this information is incorrect, someone unknown may be having an access to your account. As a safety measure, please visit our website via the link provided to verify your personal details.*
<http://www.pacustudentfinance.ac.ke/general/custverifyinfo.asp>. *Once you have done this, our information security experts will work to resolve this discrepancy. We are happy you have chosen to save with us.*

Thank you

PACU Student Finance.

- i. Interpret the type of attacks the above email portrays giving reasons. **[4 marks]**
- ii. Propose THREE remedial actions appropriate for the above attacks. **[6 marks]**

QUESTION FIVE (15 marks)

- a) Interpret any FOUR Major factors a Chief Audit Executive (CAE) and the internal audit team should consider in developing their audit plan. **[4 marks]**
- b) Describe FIVE Information systems Components that needs to be secured. **[5 marks]**
- c) Provide an overview of THREE common vulnerabilities found in IT systems and show how organizations prioritize addressing these vulnerabilities based on potential risks and impacts to information systems. **[6 marks]**

QUESTION SIX (15 marks)

- a) List and describe FIVE types of Malware programs that pose threats to information assets. **[5 marks]**
- b) Your class was tasked with a lab exercise to ascertain the functionality of their computer Antiviruses in their computers labs. They were provided with the following string of text for use in their experiment.
[\[X5O!P%@AP\[4PZX54\(P^\)7CC\)7}\\$EICAR-STANDARD-ANTIVIRUS-TEST-FILE!\\$H+H*\]](#)
Analyse the entire experiment process and expected outcome. **[4 marks].**
- c) Discuss the following major types of system security threats commonly directed to the financial systems Sector. **[6 marks]**
 - i. Identity Thefts.
 - ii. Salami attacks.
 - iii. SQL Injections.