PAN AFRICA CHRISTIAN UNIVERSITY

Where Leaders are Made

UNIVERSITY EXAMINATIONS: 2025/2026

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

BIT 402

BIT

INFORMATION SYSTEMS SECURITY & AUDIT

END TERM EXAMINATION

EXAM DATE: **FRIDAY**

TIME: **5:30PM – 8:30PM**

DATE: DECEMBER, 2025 **TIME: 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 **[4 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. **[2 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[4\PZX54(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.