MAKERERE UNIVERSITY BUSINESS SCHOOL
COURSE WORK TWO PROJECT FOR THE DEGREE OF
BACHELOR OF BUSINESS COMPUTING
OF MAKERERE UNIVERSITY ACADEMIC YEAR 2026/2027

COURSE NAME: Information Security and Auditing
COURSE CODE: BUC3126
YEAR: III
FINAL SUBMISSION DEADLINE: **17:00hrs** on **Sunday, 25th October 2026.**

Specific Instructions

- This is a take home examination and is accessible from **2nd October 2026 at 8:00am**. It is completed in four stages, each submitted on the Makerere University Business School E-learning platform (MUBSEP) by the deadlines in the table below.
- In your class groups, do the assignment. Each member should contribute and be ready to answer questions during presentations when chosen randomly.
- Download the evidence pack **BBC_Bank_Evidence_Pack_2026.zip** from the ISA course page on MUBSEP. Use the workpaper templates provided in the folder 00_Read_Me.
- For the final submission, upload both the PDF Report and one ZIP titled GroupName_WorkingPapers.zip (test sheets, recomputation worksheets, screenshots, evidence logs). The PDF Report should have a cover page indicating the group number and all members, including their Student and Registration numbers.
- Show all the necessary worksheets or workpapers and, where necessary, justify your decision for choices taken, including sample sizes and sampling methods.
- Avoid copying and pasting, or any other kind of plagiarism and cheating. All groups are required to check for plagiarism via Turnitin before uploading the final report on MUBSEP.
- **Plagiarism and AI level MUST be below 15%**
- **The Audit Report SHOULD NOT be less than 15 pages and NOT MORE than 20 pages, excluding appendices.**
- **Each member MUST complete the Self and Peer Evaluation of this Group Project via Attendance Tracker on MUBSEP before the final deadline.**
- *All names, figures and records in the evidence pack are fictitious and were created for teaching. Any resemblance to a real institution or person is coincidental.*

Stage	Deliverable (submitted on MUBSEP)	Deadline	Marks
1	Risk-Based Audit Plan (WP-1)	17:00hrs, Wednesday, 7th October 2026	10
2	Audit Program, Working Papers and VAPT lab setup (WP-2, test sheets, Nmap/scan output)	17:00hrs, Wednesday, 14th October 2026	12
3	Findings, Testing Summaries and VAPT results (in the final report)	17:00hrs, Friday, 23rd October 2026	13

4	Final IT/IS Audit Report, Management Action Plan and exit-meeting presentation	Report: 17:00hrs, Friday, 23rd October 2026. Exit meeting: week of 26th October 2026	15
	Total		**50**

TAKEHOME EXAM PROJECT (50 MARKS):

SCENARIO:

BBC Bank Uganda Limited is a commercial bank supervised by the Bank of Uganda. It operates 25 branches from its head office on Kampala Road and, since August 2025, an agency banking network of 64 agents across 25 districts on AgentConnect, a platform supplied by PayNexa Technologies Ltd of Nairobi. Its core banking system is Finacle 10, with Active Directory for authentication, a primary data centre in Kampala and a warm disaster recovery site in Entebbe.

In March 2026 the bank suffered a fraud. Over ten nights, back-office "reversal" transactions credited agent float accounts, and the money was withdrawn in cash and moved to mobile money wallets before a reconciliation officer raised the alarm on 14th March 2026. The Board Audit and Risk Committee has since commissioned an independent IT and IS audit for the period 1st January to 30th June 2026, combined with a post-implementation review of AgentConnect. The Committee also wants to know whether the bank complies with the Bank of Uganda Cyber and Technology Risk Management Guidelines, 2024, which came into force on 1st December 2024.

You have been engaged as a student audit team from the Bachelor of Business Computing to perform this assignment under academic supervision. Management has granted read-only access to evidence extracts, listed in the Evidence Index. They include the ICT Policy Manual, IT Steering Committee records, the HR staff master list, Active Directory and Finacle user extracts, access request and revocation registers, password configuration screenshots, change and deployment logs, the 2026 tariff guide, the agent register, the AgentConnect transaction journal and commission payout for March 2026, channel reconciliations, backup and restore records, the Disaster Recovery Plan and test report, and the Finacle audit trail for the incident period.

QUESTION:

As the audit team assigned to BBC Bank Uganda Limited, evaluate the adequacy and effectiveness of the bank's IT control environment, establish the control failures that allowed incident INC-2026-0314, and quantify the loss from the evidence provided. Your evaluation must examine the following areas:

a) **ICT Governance and Policy Compliance**, including Board approval and review of the ICT Policy, the functioning of the IT Steering Committee, the structure and independence of the ICT security function, and alignment with the BoU Cyber and Technology Risk Management Guidelines, 2024 and the Data Protection and Privacy Act, 2019.

b) **User Access Management**, including provisioning for joiners, transfers of movers, timely revocation for leavers, dormant accounts, and reconciliation of HR, Active Directory and Finacle records.

c) **Privileged, Generic and Vendor Accounts and Segregation of Duties**, including shared and service accounts, vendor remote access, and conflicts against the approved SoD rules such as maker and checker in the same user.

d) **Password and Authentication Configuration** across Active Directory, Finacle and AgentConnect, compared with the ICT Policy: length, complexity, expiry, history, lockout, session controls and multi-factor authentication.

e) **Change Management**, including CAB approval, UAT sign-off, emergency changes, segregation of development and deployment, and completeness of the change register against the production deployment log.

f) **AgentConnect Post-Implementation Review and Application Controls**, including independent recomputation of agent fees and the 15% excise duty against the approved tariff guide, recomputation of agent commission and 10% withholding tax, enforcement of transaction and reversal limits, and compliance of agent onboarding with the Financial Institutions (Agent Banking) Regulations, 2017.

g) **Channel Reconciliation and Interface Controls**, including the daily AgentConnect to Finacle reconciliation, the treatment and ageing of unreconciled items, and independent review.

h) **Backup, Disaster Recovery and Business Continuity**, including backup success, offsite storage, restore testing, currency of the BIA and DRP, and the results of the last DR test against RTO and RPO.

i) **Vulnerability Assessment and Penetration Testing (VAPT)** of a representative server in the bank's demilitarised zone, using free offline tools on an isolated lab. Follow the VAPT Lab Guide provided in the evidence pack. Perform discovery and a vulnerability scan, confirm selected vulnerabilities by controlled exploitation, rate findings by CVSS, and translate them into business impact for the bank. The signed Authorisation to Test must be included.

REQUIRED

Stage 1: Audit Plan (10 marks). Submit a risk-based audit plan containing the background, objectives, scope and exclusions, a risk assessment scoring at least ten risks across the eight areas (WP-1), audit criteria, approach, team roles and timeline.

Stage 2: Audit Program and Working Papers (12 marks). Submit a detailed audit program (WP-2) with test procedures, populations, sample sizes and evidence references for each area, together with the working papers for tests completed so far.

Stages 3 and 4: Final Report (28 marks). Prepare and submit a professional **IT and IS Audit Report to the Board Audit and Risk Committee of BBC Bank Uganda Limited** as a single PDF. The report must be written in formal academic and professional language and shall include:

- ✓ **Executive Summary** presenting the overall opinion, top findings and high-level risk posture.
- ✓ **Background and Scope** stating objectives, systems covered, period reviewed and standards referenced.
- ✓ **Methodology** explaining procedures, data analysis techniques (CAATs), sampling and evidence sources.
- ✓ **Incident Review of INC-2026-0314** reconstructing the sequence of events from the evidence, identifying each control that failed, and quantifying the loss with a supporting schedule.
- ✓ **Detailed Findings and Recommendations** structured by the eight areas above. For each finding present:
  - Condition supported by evidence.
  - Criteria from policy, standards, regulation or approved parameters.
  - Cause explaining the underlying reason.
  - Effect describing the business or regulatory risk.
  - Recommendation with responsible owner and realistic timeline.
- ✓ **Testing Summaries** for access reconciliation, SoD, tariff and excise recomputation, commission and withholding tax recomputation, and reconciliation review, showing the basis of calculation and the outcomes.
- ✓ **VAPT Results** with a CVSS-rated findings table, exploitation evidence, and business impact for BBC Bank, prepared using the VAPT Report Template.
- ✓ **Management Action Plan** that consolidates agreed actions, owners and target dates (WP-4).
- ✓ **Appendices** containing referenced artefacts, workpapers, calculations, screenshots and evidence logs.

EXIT MEETING (ORAL DEFENCE)

After the final submission, each group shall prepare and deliver a presentation to the "management" of BBC Bank Uganda Limited, in the form of an audit exit meeting. The course examiners will act as the Board Audit and Risk Committee and senior management to whom you present. Your team should plan the meeting, present the overall opinion and key findings clearly and professionally, walk management through the incident and the most serious risks, and be ready to answer and defend questions. Prepare a slide deck and agree who presents each part. Marks are awarded for the quality and structure of the presentation, the clarity of the findings and

recommendations, professional conduct, and how well the team defends its work under questioning.

~ END ~