

MAKERERE UNIVERSITY BUSINESS SCHOOL

COURSE WORK TWO FOR THE DIPLOMA IN BUSINESS INTELLIGENCE AND DATA ANALYTICS OF MAKERERE UNIVERSITY BUSINESS SCHOOL, ACADEMIC YEAR 2026/2027

COURSE NAME : INFORMATION TECHNOLOGY ESSENTIALS

YEAR OF STUDY : ONE

COURSE CODE : DBD1103

DATE : 3rd /10/2026

SEMESTER : ONE

TIME : 11:59PM

INSTRUCTIONS

- 1. Attempt ALL questions**
 - 2. Do in groups of not more than 10 and not less than 6**
 - 3. Tabulate the names and registration numbers and the student numbers**
 - 4. Submit by 23rd/10/2026 by 11:59PM.**
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Uganda Business Solutions Ltd (UBSL) is a medium-sized business support company based in Kampala, with branches in Jinja, Mbale and Gulu. The company provides bookkeeping, printing, data entry, tax documentation support and business intelligence reports to small and medium-sized enterprises. The company employs 40 staff members, including accountants, data-entry clerks, business analysts and administrative personnel. At its head office, UBSL has 25 desktop computers, six laptops, three printers, two scanners, a wireless router, network switches and a central file server. The branches operate smaller computer networks and send business data to the head office. Over the past six months, the company has experienced several IT-related challenges that have affected its operations. First, employees complain that computers take a long time to start and frequently freeze when running accounting software and analysing large datasets. Some computers have limited RAM and still use traditional hard disk drives. Management is concerned that purchasing entirely new computers would be expensive. Second, computers occasionally shut down unexpectedly during power fluctuations. Some employees have lost unsaved work, while

one computer failed to start after a power interruption. The IT assistant suspects that some computers have faulty power supply units and that the office lacks adequate power protection. Third, the company uses different versions of operating systems and outdated drivers. Some computers have little free storage space, and employees sometimes install unapproved software. As a result, technical support has become difficult, and software compatibility problems are increasing. Fourth, an employee recently opened an email attachment claiming to contain a tax document. The attachment installed malicious software, and several files became inaccessible. The company discovered that employees share passwords and use personal flash drives to transfer confidential customer information. Backups are performed irregularly, and management is uncertain whether the stored copies can be restored. Fifth, staff in the Jinja and Mbale branches frequently experience delays when accessing files stored at the Kampala head office. Employees sometimes use personal email accounts to send business documents to colleagues. The company has not established a consistent, secure system for sharing files and printers across its offices.

Sixth, the printing section experiences delays because its inkjet printers are frequently used to print hundreds of pages of invoices and reports. The scanners also produce inconsistent digital copies of documents, making it difficult to retrieve customer records quickly. Finally, the company collects large volumes of customer transactions, sales records and payment information. However, employees often store data in separate spreadsheets using inconsistent formats. Business analysts spend several hours correcting errors before preparing reports. Management therefore struggles to obtain timely and reliable information for decision-making.

The managing director has instructed the IT department to develop an affordable improvement plan that addresses the problems, improves security, supports business intelligence activities and avoids unnecessary replacement of existing equipment.

YOU ARE REQUIRED TO PROVIDE SOLUTIONS TO THREE HIGHLIGHTED ISSUES BELOW.

1. The company's computers are slow and frequently freeze when running business applications. Identify the likely causes and recommend practical, cost-effective hardware improvements. Explain how the proposed improvements would help staff. **(10marks)**

2. A computer fails to start after a power interruption. Explain a systematic troubleshooting procedure to identify the likely fault. State the functions of the main computer components that may need inspection. **(10marks)**
3. Design a practical power-protection and preventive-maintenance plan for UBSL. Explain how the company can reduce unexpected shutdowns, data loss and equipment damage. **(10marks)**
4. The company uses different operating-system versions, outdated drivers and computers with insufficient free storage. Recommend an operating-system and maintenance strategy. Explain why NTFS may be preferable to FAT32 for internal Windows business drives. **(10marks)**
5. Develop a response plan for the malware incident and recommend controls to prevent similar incidents. Include password management, access control, safe use of removable media and a reliable backup strategy. **(10marks)**
6. Recommend a suitable network design for the Kampala head office and its branches. Explain the roles of switches, routers and wireless access points, and describe how the IT assistant could troubleshoot connectivity problems. **(10marks)**
7. Propose a secure method for employees in different branches to share files and access approved printers without using personal email accounts. Explain how the solution would improve collaboration and protect customer information. **(10marks)**
8. Recommend suitable printing and scanning solutions for UBSL. Compare inkjet and laser printers, identify relevant maintenance practices, and explain how scanned documents could be organised for faster retrieval. **(10marks)**
9. Explain how inconsistent spreadsheets affect business intelligence reporting. Propose practical procedures for improving data accuracy, consistency, security and availability before the company analyses its data. **(10marks)**
10. As an IT consultant, prepare a prioritised improvement plan for UBSL. Identify five key actions, explain which business problems each action addresses, and indicate how management could measure success. **(10marks)**

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