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**CERTIFIED PUBLIC ACCOUNTANT
FOUNDATION LEVEL 2 EXAMINATIONS**

F2.3: INFORMATION SYSTEMS

DATE: TUESDAY 28, NOVEMBER 2023

INSTRUCTIONS:

1. **Time Allowed: 3 hours 15 minutes** (15 minutes reading and 3 hours writing).
2. This examination has **seven** questions and only **five** questions **should be** attempted.
3. Marks allocated to each question are shown at the end of the question.
4. The question paper should not be taken out of the examination room.

QUESTION ONE

Igisubizo Business Case Study

Igisubizo is a business that sells a variety of goods, such as clothing, accessories for the home and kitchen, cosmetics, auto tires, and other things. Igisubizo was at a severe disadvantage compared to its rivals because of its inadequate distribution and inventory systems. On the supply side, the suppliers claimed that it was particularly challenging to connect to Igisubizo's distribution systems and obtain data from its point-of-sale and inventory systems. Due to unethical Internet business practices, Igisubizo's economy has begun to deteriorate. Igisubizo had a very small, constantly shrinking information systems department and paid little attention to how information systems were used in its operations. However, its major rival Ihahiro significantly expanded its information systems investment and put in place systems that connected suppliers with their stores over the internet, giving it a competitive advantage over its rivals.

Required:

- (a) **Describe 5 ways on how Igisubizo should utilize digital technology and the Internet to carry out the organization's main business activities and with their suppliers.** (5 Marks)
 - (b) **Explain 5 online platform that Igisubizo can use to compete with its rivals.** (5 Marks)
 - (c) **Discuss 5 benefits of electronic commerce on consumer retailing and business-to-business interactions to Igisubizo business.** (10 Marks)
- (Total: 20 Marks)**

QUESTION TWO

Kwiku Shop Case Study

Every time a customer visits the Kwiku shop to purchase groceries, the seller is required to record that customer in the book based on the various products they purchased, the price, and other details. The accounting department must manually create the receipts, and at the end of the day, they must create reports by reading the data entered in the book for better decision making. Due to the manual system used by Kwiku Shop, there will be a long line of customers waiting to be served, and the most of them end up not be served. Without the use of an information system, customers would not receive their services promptly due to delays, which also have an impact on the revenue of the company.

Required:

- (a) List 4 five reasons why Kwiku Shop would profit from using information systems from a business standpoint. (8 Marks)
 - (b) Describe the 3 information system's issues in detail along with any 3 proposed solutions. (6 Marks)
 - (c) Explain the type of system that should be used by Kwiku to make its business operate more efficiently. (3 Marks)
 - (d) Specify 2 ways on how the system mentioned in (c) should be used and what purpose it serves in Kwiku shop. (3 Marks)
- (Total: 20 Marks)**

QUESTION THREE

KGL Fitness Company case study

KGL Fitness Company manages the gym system in physical fitness centers utilizing paper forms and verbal communication. This causes issues with member data and their transactions, which reduce the system's overall performance and fall short of the standards. In order to maintain all records concerning Members, Equipment, Expenses, Transactions, and Salaries in an effective and accessible database, it is proposed to construct a Gym Management System. This computer-based management system which will keep all records. This system will assist the owner and administrator in maintaining a big database of information about gym patrons and their regular business. The system assists in producing reports and managing records for spending, wages, and machinery. Users of the system can also create an online profile and use the system for automated attendance. The greatest choice for it is the gym management system. The manual and conventional workload is decreased and eliminated, and the administrator may quickly add, delete, update, and see each record on the computer.

Required:

- (a) **Discuss the 5 issues with the traditional file environment of KGL Fitness Company.** (5 Marks)
 - (b) **Explain 5 ways on how a database should be used to manage data in a gym management system.** (5 Marks)
 - (c) **Describe 6 key components of computer hardware that should be taken into account when buying a computer to create a gym management system.** (6 Marks)
 - (d) **Briefly describe the four computer classes that KGL Fitness Company should take into consideration when making a purchase.** (4 Marks)
- (Total: 20 Marks)**

QUESTION FOUR

BTC Coding Company case study

The BTC Coding Company came across a circumstance where it experiences the risk of suffering major knowledge loss. An experienced data analyst abruptly left the company for medical reasons, leaving no one in the organization with the same expertise. To preserve the knowledge of its departing analyst, the company started a project and two "knowledge harvesters" gathered the analyst's expertise of data analysis process over the course of four weeks, and then interviewed him again numerous times after he had formally left the organization. After thoroughly documenting the knowledge of the leaving analyst, staff members discovered a fresh, singular source of information. Anyone could learn how to analyze data using this source. The Company eventually produced an expert system that can predict and generate accurate forecasting of future sales and market trends using Artificial intelligence. This was possible through the use of data analysis, studying previous and current e-commerce trends and looking at historical data. Such an analysis equipped business owners with the data they need to boost their operations. It also gave them insights, allowing them to maximize the allocation of resources to different segments in the company to help it thrive and drive an increase in sales and revenue volume. Therefore, the system allows employees to work outside of a traditional office environment and they don't have permanent desks and shift to different workstations based on their needs.

Required:

- (a) **Detail the circumstances in which we must deploy expert systems.** (5 Marks)
 - (b) **With 2 examples, explain the kind of knowledge that BTC was looking for.** (6 Marks)
 - (c) **Explain why BTC permitted its employees to share workstations, and some were even permitted to work remotely from their homes or local coffee shops.** (4 Marks)
 - (d) **Describe 2 issues with group decision-making as well as its 3 basic elements.** (5 Marks)
- (Total: 20 Marks)**

QUESTION FIVE

Kwimo College case study

Kwimo College have introduced e-learning software using wireless technology, in an effort to modernize classrooms since education is increasingly adopting advanced technology, and Kwimo students already have been proposed a platform that they can use to prepare presentations and submit them. Through that system, students can even present them through web conferencing all on the cloud. It also helps students learn to type faster and offers online typing tests to track their progress. For school administration, through the cloud, the software allows instructors and students to access teaching and learning material on multiple devices. The use of cloud computing in e-learning will increase the ease of communication between students and get feedback quickly between students and teachers, because of the ease of sending assignments and school projects and to accomplish and correct them interactively.

Required:

- (a) Briefly describe six advantages that wireless technology-based e-learning will have for Kwimo College's operations. (6 Marks)
 - (b) Explain 2 management challenges caused by wireless technology-based e-learning. (4 Marks)
 - (c) Briefly describe 5 wireless cellular generations. (5 Marks)
 - (d) Describe Wi-Fi and how it operates. (5 Marks)
- (Total: 20 Marks)**

QUESTION SIX

BTC Bank Case Study

BTC Bank receives a request from a financial institution regulatory body citing many errors on a customer account. After conducting an investigation and quality assurance BTC bank noted that a settlement procedure that conducted on 1,239 transactions had been erroneously submitted by staff. The quality assurance staff gets to work right away contacting the affected customers, fixing their accounts, compensating the customers, and reporting back to the regulators. Quality assurance sent a change request to IT staff who is in charge of IT controls to stop the problems from happening again.

Required:

- (a) Describe 2 steps BTC bank can take against the risk and 3 tactics they can use to make sure that such problems don't arise again. (5 Marks)
- (b) Specify 3 application general controls for computer systems. (3 Marks)
- (c) Explain how Network Address Translation (NAT) technology protects information resources. (6 Marks)
- (d) Discuss 3 difficulties caused by information system security, control and 2 management solutions. (6 Marks)

(Total: 20 Marks)

QUESTION SEVEN

GM Transport Company bank Case Study

GM Transport Company is using tradition file environment therefore it is proposing to create a bus reservation system that will make it easier for passengers to know which buses are available. Customers can reserve tickets for any bus that has open seats. The record of bus includes its number, name, source, destination, and days on which it is available. Passenger must supply the desired bus number and the desired departure date. If the answer is affirmative, the ticket is booked with a confirm status, and a matching ticket ID is generated and stored alongside the passenger's other information. A specific number of tickets are reserved with a waiting status after all of the available seats have been claimed. If the waiting area is full, no tickets are reserved, and a notification indicating that there are no seats available is displayed. Once purchased, a ticket may be canceled at any time.

Required:

- (a) Describe 5 ways on how GM Transport Company will use a database to enhance business and decision-making. (5 Marks)
 - (b) Clarify 5 problems that the GM Transport Company's data management is facing. (5 Marks)
 - (c) Briefly explain how the company's existing file management system works. (5 Marks)
 - (d) Describe the importance of taking data quality into account in the proposed system. (5 Marks)
- (Total: 20 Marks)**

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