Instructional Scenario
Recommending Computer Systems to a Client Business

Course/Duty Area: Computer Information Systems/Exploring Computer Concepts

Scenario:

You are part of the IT team for a consulting firm tasked with helping a small business modernize its technology infrastructure. The business operates a retail store and a small office. They rely on outdated equipment, have limited knowledge of wireless technologies, and need guidance to improve their workflow efficiency and data management. Your team must assess their needs and recommend the right combination of computer components, input and output devices, wireless technologies, and storage solutions. You must also explain how the Internet can support their business operations.

Big Question:

How can understanding computer systems and technologies help businesses achieve efficient operations and better connectivity?

Focused Questions:

1. What are the functions of the main components of a computer system, and how do they contribute to processing tasks?
2. How does the information processing cycle support a business's operational needs?
3. What factors should a business consider when choosing input and output devices?
4. How do near-field communication (NFC), Wi-Fi, and Bluetooth technologies support modern workflows?
5. How does the Internet enable businesses to connect and operate effectively?

Student Project:

Your team will act as IT consultants. Create a proposal that includes:

1. **Computer System Components:** Explain what devices and systems are needed for the office and retail store, detailing their functions.
2. **Input/Output Devices:** Recommend appropriate devices for the store's checkout system, office communication, and marketing.
3. **Wireless Technology Plan:** Describe how NFC, Wi-Fi, and Bluetooth could be used in their operations.
4. **Storage Solutions:** Recommend auxiliary storage devices (e.g., external drives or cloud services) for backing up data and sharing information.
5. **Internet Infrastructure:** Explain how the Internet will connect their operations and support daily activities like online sales, customer service, and inventory management.

Step 1: Exploration (15 minutes)

- Begin with a brief discussion about real-world uses of computer systems in businesses.
- Introduce the small business scenario and highlight its challenges.

Step 2: Learning Stations (35 minutes)

Students rotate through stations to learn the following concepts:

1. **System Components and the Information Processing Cycle:**
   o Explore examples of CPUs, RAM, storage, and motherboards, and identify their roles.
   o Complete a hands-on matching activity with cards showing component descriptions and functions.
2. **Input/Output Devices:**
   o Examine real or virtual examples of devices such as barcode scanners, monitors, and printers.
   o Analyze their financial implications and discuss how they integrate with other components.
3. **Wireless Communication (NFC, Wi-Fi, Bluetooth):**
   o Watch a short video or presentation explaining these technologies.
   o Discuss use cases, such as NFC for contactless payments or Bluetooth for wireless printing.
4. **Internet Basics and Auxiliary Storage:**
   o Learn how the Internet works, using a visual model (e.g., diagrams of servers, DNS, and IP addresses).
   o Explore cloud and physical storage options, comparing their advantages and costs.

Step 3: Proposal Development (30 minutes)

5. In teams, apply the knowledge from the stations to draft a proposal for the business.
6. Include clear explanations for each recommendation, considering financial constraints and technological needs.

Project-Based Assessment:

Rubric for IT Consulting Proposal Project

Criteria	Exemplary (4)	Proficient (3)	Developing (2)	Beginning (1)
Understanding of Computer Components	Clearly and accurately identifies all key computer components and explains their functions in detail.	Identifies most key computer components with sufficient explanation of their functions.	Identifies some components but lacks clarity or accuracy in explaining their functions.	Fails to identify key components or provide accurate explanations.
Application of Information Processing Cycle	Fully integrates the stages of the information processing cycle into the proposal with clear examples.	Integrates the stages of the cycle but with minor gaps or unclear examples.	Partially integrates the stages of the cycle with limited examples or unclear connections.	Does not include or inaccurately represents the stages of the processing cycle.

Criteria	Exemplary (4)	Proficient (3)	Developing (2)	Beginning (1)
Recommendations for Input/Output Devices	Recommendations are highly relevant, well-reasoned, and consider financial and functional aspects.	Recommendations are relevant and reasonably justified, considering most aspects.	Recommendations are partially relevant with limited consideration of functionality or cost.	Recommendations are irrelevant, unclear, or lack justification.
Wireless Technology Plan (NFC, Wi-Fi, Bluetooth)	Clearly explains how each technology applies to the business scenario with specific examples.	Explains most technologies with general examples relevant to the scenario.	Mentions technologies but lacks clear explanations or specific examples.	Fails to address wireless technologies or explanations are incorrect.
Storage Solutions	Provides detailed, practical, and cost-effective recommendations for auxiliary storage.	Provides practical recommendations but lacks detail or full cost consideration.	Provides general recommendations with minimal practicality or cost analysis.	Recommendations are impractical, unclear, or missing.
Internet Infrastructure	Thoroughly explains how the Internet will support operations with specific examples.	Explains how the Internet will support operations but lacks detailed examples.	Provides a basic explanation with limited or unclear examples.	Fails to explain how the Internet will support operations.
Team Presentation	Presentation is clear, engaging, well-organized, and demonstrates deep understanding of concepts.	Presentation is clear and organized, showing a good understanding of concepts.	Presentation is somewhat clear but lacks organization or depth in concept understanding.	Presentation is unclear, disorganized, or demonstrates minimal understanding.
Creativity and Innovation	Proposal demonstrates exceptional creativity and innovative solutions tailored to the scenario.	Proposal demonstrates creativity with solutions that fit the scenario well.	Proposal demonstrates some creativity but lacks innovation or tailored solutions.	Proposal lacks creativity or is not tailored to the scenario.
Team Collaboration	Team worked cohesively, effectively dividing tasks and integrating ideas seamlessly.	Team collaborated well, with minor gaps in task division or idea integration.	Team collaboration was inconsistent, with noticeable gaps in task division or integration.	Team collaboration was poor, with minimal contribution from members.
Overall Proposal Quality	Proposal is professional, well-organized, and exceeds expectations in addressing client needs.	Proposal is organized and adequately addresses client needs.	Proposal is somewhat organized but does not fully address client needs.	Proposal is disorganized and does not adequately address client needs.

Scoring Guide

- Total possible points: **40** (4 points for each of 10 criteria)
- **36–40:** Outstanding
- **30–35:** Proficient
- **20–29:** Developing
- **Below 20:** Needs Improvement

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