The Open University of Sri Lanka
B.Sc. (IT) Degree Programme / B.Sc. Hons in (IT) Degree Programme
Department of Computer Science
Level 05
ISU5300 – Management Information Systems
Final Examination - 2026/2027
Duration: Two Hours Only (2 hours)

Date: 23.06.2026 **Time: 9.30 a.m. – 11.30 a.m.**

This question paper consists of **Six (06)** questions on **four (04) pages.**

ANSWER FOUR QUESTIONS ONLY.

Question 01

I) Define the terms ***data***, ***information***, and ***knowledge***, and explain how they differ from each other. [05 marks]

II) Describe the three (03) dimensions of an information system and explain the importance of each dimension in organizational operations. [06 marks]

III) Consider the following scenario:

A retail company stores the same customer data separately in sales, inventory, and accounting systems, leading to errors and inconsistencies.

Identify and explain two (02) problems that could be addressed by implementing a Database Management System (DBMS). [06 marks]

IV) Analyze four (04) problems that organizations may face when using a traditional file system instead of a database management system. [08 marks]

Question 02

Consider the following scenario:

A rapidly growing company wants to digitize its operations and become a fully integrated digital firm.

I) Define a digital firm and identify three (03) benefits of using Internet technologies in business operations. [05 marks]

II) Describe three (03) types of electronic commerce (e-commerce) and provide one example for each type. [06 marks]

III) Explain two (02) ways in which digital payment systems enhance e-commerce transactions. [06 marks]

IV) Analyze four (04) challenges organizations may face when adopting e-business technologies. [08 marks]

Question 03

Consider the following scenario:

An international company uses intelligent systems to improve customer insights and make better strategic decisions.

I) List five (05) intelligent techniques used in Management Information Systems (MIS). [05 marks]

II) Explain how neural networks and fuzzy logic systems can support decision-making. [06 marks]

III) Analyze three (03) ethical issues related to using intelligent systems in organizations. [06 marks]

IV) Recommended four (04) key components of an effective Knowledge Management System (KMS) in an organization. [08 marks]

Question 04

Consider the following scenario:

A large manufacturing company has recently implemented an integrated Enterprise Resource Planning (ERP) system to connect its production, finance, human resources, and supply chain departments. Managers at different organizational levels use various information systems to monitor daily operations, analyze performance, and support strategic planning.

I) Define Transaction Processing Systems (TPS) and Executive Support Systems (ESS), and compare their primary purposes within an organization. [05 marks]

II) Explain how Decision Support Systems (DSS) help managers in making semi-structured decisions using two (02) relevant examples. [06 marks]

III) Analyze two (02) limitations of Management Information Systems (MIS) in modern organizations. [06 marks]

IV) *"Enterprise systems improve coordination but also increase organizational complexity."* Evaluate this statement using real-world examples. [08 marks]

Question 05

I) Define system development and outline the major stages of the System Development Life Cycle (SDLC). [05 marks]

II) Describe two (02) alternative system-development approaches and explain how they differ from traditional SDLC approach. [06 marks]

III) Consider the following scenario:

A startup company needs to quickly develop a mobile application with changing user requirements.

As a system analyst, recommend a suitable system development approach and justify your recommendation using two (02) reasons. [06 marks]

IV) Analyze two (02) advantages and two (02) disadvantages of the selected development approach, recommended in 05. (III) [08 marks]

Question 06

I) Identify and briefly explain five (05) threats to information systems. [05 marks]

II) Explain how ***encryption*** and ***biometric authentication*** help secure information systems. [06 marks]

III) Discuss three (03) security controls that organizations can implement to reduce the risk of cyber-attacks. [06 marks]

IV) Analyze four (04) consequences of poor information system security in modern organizations. [08 marks]

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