NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERC, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF GOVERNANCE & MANAGEMENT SCIENCES

QUALIFICATION : BACHELOR OF BUSINESS AND INFORMATION ADMINISTRATION	
QUALIFICATION CODE: 07BBIA	**LEVEL: 7**
COURSE CODE: BIS721S	**COURSE NAME**: BUSINESS INFORMATION SYSTEMS 3
SESSION: DECEMBER 2025	**PAPER:** THEORY (PAPER 2)
DURATION: 2 HOURS	**MARKS:** 100

2nd OPPORTUNITY EXAMINATION QUESTION PAPER	
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MODERATOR:	Mr. Tuliameni Kanyemba

INSTRUCTIONS

1. Read all the questions carefully before answering.
2. Make sure your name and surname, question number and the date appears on the answer script.
3. Please ensure that your writing is legible, neat and presentable.
4. **THIS QUESTION PAPER CONSISTS OF 5 PAGES** (Including this front page)

Answer the following multiple-choice questions. Only write down the question number and the correct answer. E.g. 1.1 C

Section A: Multiple choice questions

1.1 Name the type of Decision Support System (DSS) architecture which is most appropriate for a Chief Marketing Officer (CMO) who needs to predict the impact of launching a new product line by allowing her to adjust variables such as advertising budget, competitor pricing, and production costs to see various projected sales outcomes:

A Data-Driven DSS
B Model-Driven DSS
C Knowledge-Driven DSS
D Document-Driven DSS

1.2 A large retail chain needs to connect its hundreds of geographically dispersed stores and distribution centres to its central headquarters for inventory management and sales data consolidation. Which type of network is specifically designed to provide this large-scale, long-distance connectivity essential for a modern business information system:

A Local Area Network (LAN)
B Metropolitan Area Network (MAN)
C Wide area network (WAN)
D Storage Area Network (SAN)

1.3 Which networking term describes a system of hardware and software that allows different computer systems to communicate and share resources within a business environment:

A Data Warehouse
B Information network
C Cloud Computing
D Transaction Log

1.4 The primary goal of clarifying ambiguous user requirements through the rapid creation of a preliminary, working system version defines what systems development methodology:

A Prototyping
B Waterfall
C Spiral
D Agile

1.5 Which step in Simon's Model of Decision Making—the core framework for Decision Support Systems (DSS)—involves using tools like simulation models and "what-if" analysis to explore potential solutions and their consequences:

A Intelligence
B Choice
C Implementation
D Design

1.6 What component of Business Intelligence (BI) is primarily responsible for the interactive, multi-dimensional analysis of large volumes of aggregated data to discover trends and anomalies, thereby supporting tactical decision-making:

A Transaction Processing System (TPS)
B Data Mining
C Online Analytical Processing (OLAP)
D Executive Support System (ESS)

1.7 Which type of network wiring, known for its superior shielding against electromagnetic interference (EMI) compared to twisted-pair cables, is primarily used by cable companies to deliver broadband internet access and video services:

A Coaxial Cable
B Fiber Optic
C Unshielded Twisted-Pair (UTP)
D Shielded Twisted-Pair (STP)

1.8 What specific **technical feature** of a Group Decision Support System (GDSS) is implemented to mitigate the common group dynamic problem of dominant members influencing the discussion and to guarantee that every participant's input is considered equally:

A Data-Driven Model
B Teleconferencing
C Anonymity Feature
D Document Management

1.9 A component of a Management Information System (MIS) is primarily designed to focus managerial attention by automatically highlighting performance results (e.g., sales figures or defect rates) that fall significantly outside a predefined standard or tolerance level:

A Ad-Hoc-Report
B Summary Report
C Trend Report
D Exception Report

1.10 What core network component, operating at the operational level of a business, is primarily responsible for directing data packets across different networks and using IP addresses to determine the optimal path for communication:

A Repeater
B Switch
C Router
D Modem

[10 marks]

Section B: Structured questions **[90 Marks]**
Answer each of the following questions:

Questions 1

Imagine your company is planning to upgrade its Business Information Systems (BIS) network infrastructure to enhance data security, reliability, and speed for its 150 employees across three separate departments. Identify and briefly describe five essential hardware and/or software components required for a robust and modern business network setup. Furthermore, explain the primary function of each identified component within the overall network architecture. **[10]**

Question 2

Imagine your company is responsible for network protocols to ensure secure and reliable data exchange. Identify and describe two essential application-layer protocols that would be used for this data transmission, justifying their selection base on the requirements of reliability and security. Explain the role of a key transport-layer protocol in ensuring the reliable delivery of this data and how it contributes to the overall communication process. Briefly explain the function of the Internet Protocol (IP) in this context and what distinguishes it from the transport-layer protocol you identified in part 2.
.

[10]

Question 3

Assume you are managing a software development project and need to decide whether to implement the Verification and Validation (V&V) methodology. What are five reasons why adopting this methodology would be beneficial for ensuring the quality and reliability of the project? Discuss each reason in the context of risk management, efficiency, and project success.

[10]

Question 4

Given the System Development Life Cycle (SDLC) is a structured framework for building information systems, what are four key, sequential phases of the traditional Waterfall model, including a brief description and a key deliverable for each? Additionally, explain one significant drawback of using the Traditional Waterfall model for modern business projects with frequently changing requirements.
. **[10]**

Question 5

Imagine your company is tasked to upgrade an old student portal to handle sensitive date and integrate complex, high-risk features line online voting and a cloud payment system. Because the project faces high technical risk and has changing requirements for features like the adaptive learning module, you chose the Spiral methodology. Explain why the Spiral methodology is a more appreciate choice and focusing on two key characteristics. Describe the four main phases of the Spiral methodology.

. **[10]**

Question 6

Imagine your organisation is restructuring its administrative hierarchy to improve efficiency and plans to implements three core types of information systems to support this new structure: Describe the three-core information system and the fundamental difference between the data focus of a TSP and an MIS. Explain why an EIS is crucial for the Executive Management level, specifically relating its function to the strategic, long-term goals of your company: **[10]**

Question 7

Imagine your organisation is considering implementing a Decision Support System (DSS) to improve decision-making processes. Identify and elaborate on five key components of a DSS. Discuss how each component contributes to the system's overall effectiveness in supporting data-driven decisions within your organisation. **[10]**

Question 8

Imagine you are a manager tasked with leading a decision-making process in your organisation. Outline and explain the five key stages of the decision-making process. Discuss how each stage contributes to making informed, effective decisions and the potential impact on organisational outcomes.
[10]

Question 9

Imagine a company at different organisational levels (strategic, tactical, and operational) is looking to understand the roles of its information systems. What are five key roles that an information system plays at each of these levels? Discuss how each role contributes to decision-making, efficiency, and overall organisational goals at various levels of the company. **[10]**

[Section B Total Marks: 90]

End of examination

TOTAL: 100