NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF INFORMATICS

QUALIFICATION: Bachelor of Informatics Honours (Business Informatics)	
QUALIFICATION CODE: 08BIBH	**LEVEL:** 8
COURSE CODE: EAT810S	**COURSE NAME:** Enterprise Architecture
SESSION: JULY 2024	**PAPER:** PAPER 1
DURATION: 3 HOURS	**MARKS:** 70

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr Irja Shaanika
MODERATOR:	Dr Monica Nehemia

INSTRUCTIONS	
	1. Answer ALL the questions.
	2. When writing, take the following into account: The style should inform than impress, paragraphs set out according to ideas or issues and paragraphs flowing in a logical order.
	3. Information should be brief and accurate.
	4. Please ensure that your writing is **legible, neat, and presentable**

THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)

Section A: Multiple Choice Questions [10 marks]

1. Which of the below domains can be considered as business enabling? [1 mark]
   A. Business, Application, Data
   B. Data, Application, Technical
   C. Infrastructure, Application, Security
   D. Business, Information, Infrastructure

2. The ever-increasing role of IT for organisations, as well as for the society as a whole, has become generally known as: [1 mark]
   A. Digital transformation
   B. Enterprise Architecture
   C. 4th Industrialization
   D. Virtually Unlimited

3. Which one is valid about the temporary EA artifacts? [1 mark]
   A. They live and evolve together with an organisation.
   B. They are created once and then updated when necessary
   C. They are transitory, single-purposed.
   D. After they are developed they are constantly used

4. _____Encompasses all routine tasks, operating procedures and associated regulations, as well as information requirements, decision-making rights and the degree of autonomy of their performers. [1 mark]

   A. Technology aspect
   B. Process aspect
   C. People aspect
   D. Management aspect

5. Which of the following actions is NOT part of addressing the people aspect when introducing a new high-impact technology. [1 mark]

   A. Explaining the benefits of using the new IT system and coping with resistance
   B. Dealing with political and power redistribution issues associated with the new IT system.
   C. Modifying attitudes and cultural prejudices regarding the new IT system.
   D. Modifying the tasks of the existing processes affected by the new IT system.

6. Which of the following is incorrect about information contents of Enterprise Architecture artifacts. [1 mark]
   A. EA artifacts can have different representation formats
   B. EA artifacts can provide different levels of detail.
   C. EA Artifacts can cover similar organisational scopes.
   D. EA artifacts can describe different domains of enterprise architecture

7. An understanding of organizational culture is important during the process of Enterprise Architecture development because it: [1 mark]
   A. Helps in understanding the stakeholders to gain their support and manage expectations of the EA program
   B. Does not reflect the current and the future views of the organization
   C. Represent the formal system of work roles that reflect how employees and managers interact with each other
   D. It reflects authority relationships in the organization

8. Companies in ------------------- usually increase access to shared data by introducing data warehouses, but transaction data is still embedded in individual applications. [1 mark]
   A. Standardized Technology architecture
   B. Business Modularity Architecture
   C. Optimised core architecture
   D. Business Silos architecture

9. _____ Is not an EA component at the data and information level. [1 mark]
   A. Service bus and middleware
   B. Knowledge warehouses
   C. Information systems
   D. Databases

10. An understanding of organizational structure is important during the process of Enterprise Architecture development because it [1 mark]
   A. Helps in understanding the stakeholders to gain their support and manage expectations of the EA program
   B. It reflects the current and the future views of the organization
   C. Represent the formal system of work roles that reflect how employees and managers interact with each other
   D. It reflects how applications are developed in the organization

Section B: True and False Questions   [10 marks]

1. Firms that listen to their customers are more likely to be able to counteract the onslaught of potentially disruptive technologies.   [1 mark]

2. Governance of the key assets does NOT occur through a large number of organisational mechanisms.   [1 mark]

3. One way companies respond to conflicting demands is to adopt different operating models at different organizational levels.   [1 mark]

4. Enterprise Architecture domains collaborate in their activities and deliverables. [1 mark]

5. Coordination is one of the dimensions of the operating model.   [1 mark]

6. Companies moving into business modularity have digitized their core business processes and have access to the critical customer and product data they need to develop new products and services.   [1 mark]

7. Standardized Technology Architecture is the stage of enterprise architecture maturity where companies look to maximize individual business unit needs or functional needs.
                                                                                  [1 mark]

8. Technical requirements are based on the business processes and activities which are meant to support and enable competitive advantage.   [1 mark]

9. Moving from one maturity stage to another involves the benefits of reduced IT operating costs to greater strategic agility.   [1 mark]

10. The general idea of using Enterprise Architecture artefacts for improving communication between business and IT stakeholders is industry-specific and not widely applicable to most organisations globally.   [1 mark]

Section C: Structured Questions. [50 marks]

Question 1: Discuss how organisations can use their IT systems to achieve competitive advantage in the following areas: [6 marks]
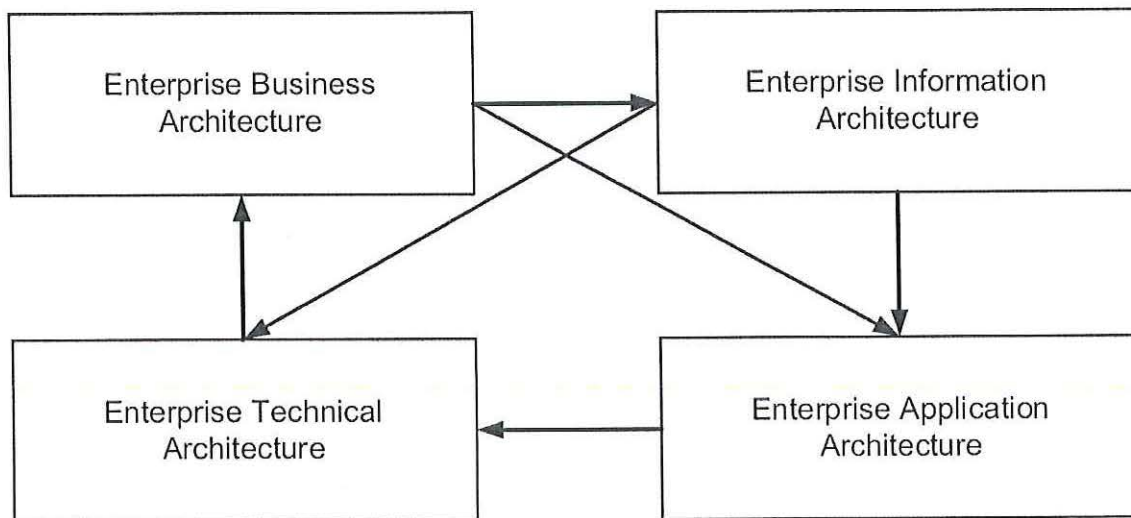 a) Operational excellence and cost leadership
  b) Product differentiation and leadership
  c) Customer intimacy and focus

Question 2: Discuss people, processes and technology as the aspects of organizations that are relevant to IS/IT systems. [6 marks]

Question 3: Differentiate between Information Systems and Information Technology as two main computing components. [4 marks]

Question 4: What are the implications of misunderstanding and confusion between Information Systems and Information Technology to the computing environments? [4 marks]

Question 5: The domains of Enterprise Architecture are interdependent and influence each other during the processes of development, implementation, and practice. Discuss the interdependence of the domains as depicted in the diagram below. [8 marks]
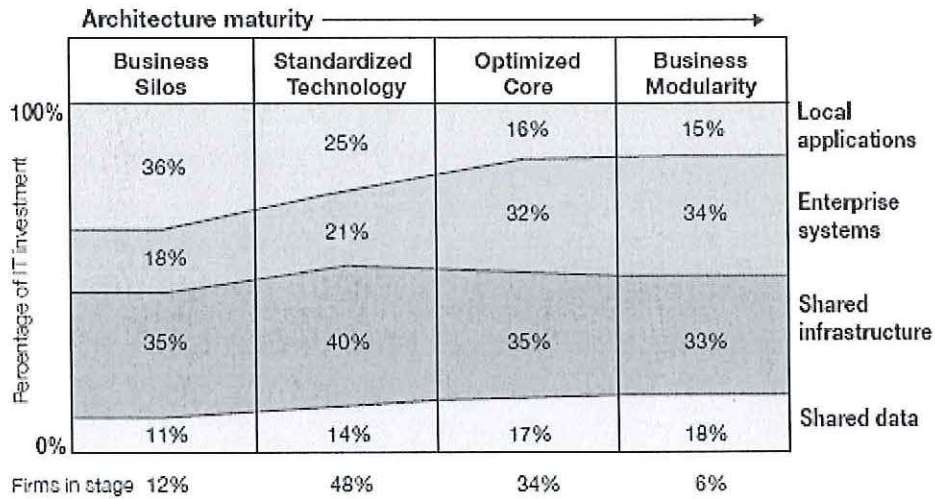
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┌─────────────────────┐          ┌─────────────────────┐
│  Enterprise Business│ ───────► │ Enterprise Information│
│     Architecture    │  ╲    ╱  │     Architecture     │
│                     │   ╲  ╱   │                      │
└─────────────────────┘    ╲╱    └─────────────────────┘
         ▲                  ╱╲              │
         │                 ╱  ╲             │
         │                ╱    ╲            ▼
┌─────────────────────┐  ◄      ┌─────────────────────┐
│  Enterprise Technical│ ◄───── │ Enterprise Application│
│     Architecture     │        │     Architecture     │
└─────────────────────┘        └─────────────────────┘
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Question 6: What are the common elements constituting organisational business strategy? Mention five. [6 marks]

Question 7: Data sharing across business units has both advantages and disadvantages for organizations. Discuss the advantages and disadvantages. [4 marks]

Question 8: There are many facts about what Enterprise Architecture is not. Based on the two statements below: discuss why enterprise architecture should not be viewed as: **[4 marks]**
  a. Not an Enterprise Engineering [2 marks]
  b. Not an Implementation of Enterprise Architecture Frameworks [2 marks]

Question 9: With reference to the diagram below, discuss the utilisation and IT investments in local applications as the organisations advance through the four architecture maturity stages. **[8 marks]**

Architecture maturity ⟶

	Business Silos	Standardized Technology	Optimized Core	Business Modularity	
100%		25%	16%	15%	Local applications
	36%				
		21%	32%	34%	Enterprise systems
	18%				
	35%	40%	35%	33%	Shared infrastructure
0%	11%	14%	17%	18%	Shared data
Firms in stage	12%	48%	34%	6%	

(Percentage of IT investment on vertical axis)

THE END