



PANIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF INFORMATICS, JOURNALISM AND MEDIA TECHNOLOGY

QUALIFICATION : BACHELOR OF INFORMATICS HONOURS (WEB INFORMATICS, BUSINESS INFORMATICS)	
COURSE: ENTERPRISE ARCHITECTURE	COURSE CODE: EAT810S
QUALIFICATION CODE: 08BIFH, 08BIHB	LEVEL: 8
SESSION: JUNE 2022	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 90

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

PERMISSIBLE MATERIALS
None.

THIS QUESTION PAPER CONSISTS OF 5 PAGES
(Excluding 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 and society as a whole, has become generally known as: [1 mark]
 - A. Digital transformation
 - B. Enterprise Architecture
 - C. 4th Industrialisation
 - 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 organisational 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 organisation
8. Which of the following is not part of the Parsons/Thompson model? [1 mark]
- A. Managerial
 - B. Technical
 - C. Institutional
 - D. Strategic
9. 10. Companies in ----- usually increase access to shared data by introducing data warehouses, but transaction data is still embedded in individual applications. [1 mark]
- A. Standardised Technology architecture
 - B. Business Modularity Architecture
 - C. Optimised core architecture
 - D. Business Silos architecture
10. _____ is not an Enterprise Architecture component at the data and information level. [1 mark]
- A. Service bus and middleware
 - B. Knowledge warehouses
 - C. Information systems
 - D. Databases

Section B: Structured Questions

[45 marks]

Question 1:

[8 marks]

The successful utilisation of Information Systems requires consistent coordination in three broad organisation aspects: People, Process and Technology. When it comes to the people aspect, briefly, discuss some of the actions that can be implemented to ensure the success of any new high-impact IT.

Question 2: [5 marks]

Discuss how the lower layers Enterprise Architecture domains underpin the higher layer EA domains.

Question 3: [10 marks]

The points below define what Enterprise Architecture is not. Discuss what each point means in detail:

- a) Not an automated planning,
- b) Not a technology-specific practice,
- c) Not an enterprise modeling,
- d) Not an enterprise engineering,
- e) Not an implementation of Enterprise Architecture Frameworks,

Question 4: [8 marks]

Justify why the business strategy cannot be solely the basis for architectural planning.

Question 5: [6 marks]

What are some of consequences that might arise when organizations do not implement an operating model?

Question 6: [8 marks]

Why is it important to understand the people side of Enterprise Architecture?

Section C: Case Study Questions [35 marks]

Read the following case study and answer questions below.

Enterprise architecture at Syngenta

Source: <https://www.computerweekly.com/news/2240104534/Case-study-Enterprise-architecture-at-Syngenta>

Syngenta, formed in 2000 by the merger of Novartis and AstraZeneca's agribusinesses, has developed an Enterprise Architecture (EA) to help the company simplify and lower the cost of IT and support key applications such as SAP and Microsoft. When the company was formed, there were two separate IT groups - one technically focused and one strategically focused, and the business wanted one face to the customer. Peter Hungerford, an enterprise architect in the strategy and architecture group of Syngenta, told delegates at this week's Gartner Symposium in Cannes that the IS team had to take control of IT spending. "We introduced portfolio management and standard governance," he said. Syngenta selected strategic suppliers for networks, infrastructure and applications. "We tried to take a bigger-picture architecture approach," said Hungerford. There were three significant projects:

- Decommission applications
- Simplify SAP
- Simplify Microsoft

The aim of the EA was, first, to get the technical aspects right, then move higher up into the business - a waterfall cascading up the organisation. However, Hungerford conceded that such a strategy would work only as fast as the business could change. "As an architect, you have to time your architecture to when it is ready for the business," he said. Syngenta found an open door through the technical architecture. But other elements higher up the business, like the information architecture, proved a big challenge for the EA team, because the business was not ready. Selling components of the EA were easier if the project team could illustrate genuine business benefit. So, by starting out on standardising the desktop, Hungerford was able to convince the business that it would benefit in the same way from server standardisation. On the SAP project, he said one of the areas the team had struggled with was in dealing with what the business wanted compared with what it actually needed.

Through the EA, Syngenta has migrated to what Hungerford describes as "an assetless data centre", using a provider that charges the company for processing and storage on a usage basis. However, he warns that one of the mistakes of the approach Syngenta took was that it lost in-house experts. "You need in-house skills to understand what the suppliers propose, and better understand what they are telling us," he said. According to Gartner research director Julie Short, a key criterion in the success of the Syngenta EA project was that the team took extra time to use communication skills to get the right answer from the business. She said there was an intricate link between the maturity of the EA team and the rest of the IS organisation. In other words, an EA cannot succeed unless the rest of IS is ready.

Question 1: [5 Marks]

"An enterprise architecture (EA) is often used to help a business codify its structure". Discuss how the organization structure impacts the development of enterprise architecture.

Question 2: [5 Marks]

Discuss how the company Syngenta can use EA to simplify and lower the cost of IT.

Question 3: [4 Marks]

When the company was formed, there were two separate IT groups - one technically focused and one strategically focused, and the business wanted one face to the customer. Discuss the implications of having two separate IT groups in an organisation.

Question 4: [6 Marks]

The aim of the EA was, first, to get the technical aspects right, then move higher up into the business. Justify why this is a risky and an incorrect approach to EA development.

Question 5: [5 Marks]

According to Gartner research director Julie Short, a key criterion in the success of the Syngenta EA project was that the team took extra time to use communication skills to get the right answer from the business. List some of the qualities that allow architects to be good communicators.

Question 6: [5 Marks]

Peter Hungerford, an enterprise architect said the IS team had to take control of IT spending by introducing portfolio management and standard governance. What is the purpose of an EA governance body?

Question 7: [5 Marks]

The case refers "So, by starting out on standardising the desktop, Hungerford was able to convince the business that it would benefit in the same way from server standardisation". Briefly discuss the advantages of standardising.

The End