

Faculty Name: IT
Qualification Name:
Programming Foundation
Module Name: CF412

***Formative Assessment
2 Question Paper***

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Formative Assessment 2 Paper

Faculty Name:	Information Technology
Qualification Name:	IT Certificate in Programming Foundation
Module Name:	Cloud Fundamentals Semester 2
Module Code:	CF412
Hand Out:	15-08-2023
Hand In:	15-09-2023
Time:	23:30
Total Marks:	100
Examiner:	Mrs Lindeka Mntambo
Resources Required:	N/A

Section A: Scenario Question(s)	100 Marks
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Instruction(s) to Students

1. Read all instructions carefully before beginning the assessment.
2. Use only the materials provided to you, including supporting materials if necessary.
3. Write your name and any required information on the answer booklet or answer sheet.
4. Read each question carefully and make sure you understand what is being asked.
5. Manage your time carefully and pace yourself throughout the hand in and hand out dates.
6. Show all work and clearly label your answers.
7. All Formatives are due 23:30
8. Use correct grammar, spelling, and punctuation.
9. When you have finished the assessment, check your work to make sure you have answered all questions to the best of your ability.
10. The Feasibility study report MUST have a minimum of 8 pages, including Cover page, contents page, bibliography page and the report itself.

Section A

Scenario Question(s)

100 Marks

Question 1

WeTest is a healthcare organization that specializes in paternity and Maternity testing for clients at a fee of R1800.00. The organisation has their own laboratory. They conduct blood, nails and hair testing. They have private clients, clients from paternity court, as well as clients from hospitals where it is alleged that a baby was switched at birth. The organization is currently an on-premises environment, resources are deployed in-house and within an organization's IT infrastructure. The organization is responsible for maintaining the solution and all its related processes. They are responsible for the ongoing costs of the server hardware, power consumption, and space. They retain all their data and are fully in control of what happens to it, for better or worse. They need a high level of security as they deal with sensitive data. It is imperative that they remain compliant and know where their data is at all times. They want to save on operational costs, including hardware maintenance.

The organisation wants to use Microsoft Azure to host their websites and applications. Also use Azure for data backup and disaster recovery. Therefore, the organisation has decided to move from on-premise to Azure cloud. The organisation has tasked you to create their **Azure Migration Plan Report** (Use Segoe UI Font, Font colour: Black, Font Size: 11, Minimum 8 pages)

Azure Migrate is a migration service that helps organizations evaluate the benefits of migrating their on-premises infrastructure, data and applications to the public cloud.

Enterprises are by definition complex, multi-operational businesses that serve customers on a large scale. The cloud, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) offerings, has increasingly become the most effective way for enterprises to operate their most critical business applications. For enterprises that are finally ready to make the move to the cloud, creating an enterprise cloud migration plan is a process that must be completed in an effective manner and must be done the right way.

What should be included in your Azure Migration Plan Report:

- 1. The migration model that the application will use:** Create an analysis that shows which Azure model is the organization going to use between Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) offerings. State reasons for the chosen Azure cloud offering. *(Use dummy data for the TCO Calculator based on the brief given on WeTest organization.)*
- 2. Current state assessment and future state planning:** Analyze the current-state of the on-premises environment that WeTest organization is currently using, to identify the connectivity of the different tiers of the application, their dependencies on on-premises resources if any, and legacy configurations that need to be updated before migration. *(Use dummy data for the TCO Calculator based on the brief given on WeTest organization.)*

3. How to accomplish the move: The objective of the move should result in a lower TCO (total cost of ownership) and improved performance at lower costs. Discuss in depth how will the migration impact on costs and Use the Azure TCO Calculator and provide screenshots of the report. *(Use dummy data for the TCO Calculator based on the brief given on WeTest organization.)*

4. Storage configuration options: Regardless of whether a migration is based on an IaaS or PaaS model, storage costs will increase over time. To keep rising costs under control, it is crucial to get to know the different Azure storage types and to select the storage account type that appropriately meets the application's performance, read/write operations, and replication requirements. List the Azure storage types and elaborate on which storage type is best suited for WeTest organization. *(Use dummy data for the TCO Calculator based on the brief given on WeTest organization.)*

5. Security and availability solutions: Public cloud usage comes with a major concern: security. With some loss of data sovereignty and infrastructure control, it is important to make sure to have a strategy for **encrypting** all at-rest data in place. For Windows, **Bit locker Drive Encryption and Azure Key Vault** can be an excellent starting point while devising this strategy. **What Security and availability solutions** are we going to **use** for **WeTest organization**? *(Use dummy data for the TCO Calculator based on the brief given on WeTest organization.)*

6. Migrating and maintaining your Azure deployment: **What tools** are you going to use to **migrate** the WeTest data **to the cloud**? (Consider **Azure Import/Export service, Azure site Recovery, Azure SQL Database Migration tool**) *(Use dummy data for the TCO Calculator based on the brief given on WeTest organization.)*

[Total = 100 Marks]

Mark sheet/ Rubric

Content:	Excellent	Good	Poor
<ul style="list-style-type: none"> Document Submitted is a PDF document, which has a Cover Page, Contents Page, Page numbers, Azure Migration plan and a Bibliography. 	PDF Document submitted with all requirements. (8-10 points)	PDF Document submitted but missing some requirements. (6-7 points)	PDF Document submitted without the requirements. (0-5 points)
<ul style="list-style-type: none"> The migration model that the application will use. 	Good to excellent planning shown. (10-15 points)	Some Planning noted. (6-9 points)	Very little Planning noted. (0-5 points)
<ul style="list-style-type: none"> Current state assessment and future state planning. 	Good to excellent planning shown. (8-10 points)	Some Planning noted. (6-7 points)	Very little Planning noted. (0-5 points)

<ul style="list-style-type: none"> How to accomplish the move. 	Good to excellent planning shown. (8-10 points)	Some Planning noted. (6-7 points)	Very little Planning noted. (0-5 points)
<ul style="list-style-type: none"> Screenshots of the Azure TCO Calculate with dummy data. 	Good to excellent planning shown. (10-15 points)	Some Planning noted. (6-9 points)	Very little Planning noted. (0-5 points)
<ul style="list-style-type: none"> Storage configuration options. 	Good to excellent planning shown. (10-15 points)	Some Planning noted. (6-9 points)	Very little Planning noted. (0-5 points)
<ul style="list-style-type: none"> Security and availability solutions. 	Good to excellent planning shown. (8-10 points)	Some Planning noted. (6-7 points)	Very little Planning noted. (0-5 points)
<ul style="list-style-type: none"> Migrating and maintaining your Azure deployment 	Good to excellent planning shown. (8-10 points)	Some Planning noted. (6-7 points)	Very little Planning noted. (0-5 points)
<ul style="list-style-type: none"> Proper document structure, font type and font size, Minimum 8 pages submitted. 	PDF Document submitted with all requirements. (4-5 points)	PDF Document submitted but missing some requirements. (2-3 points)	PDF Document submitted without the requirements. (0-1 points)

[Total = 100 Marks]