

061306T4CSC

COMPUTER SCIENCE LEVEL 6

ICT/OS/CS/CR/06/6/A

DEVELOP AN INFORMATION SYSTEM

July/August 2024



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

3 HOURS

INSTRUCTIONS TO CANDIDATE

1. The paper consists of **two** sections: **A** and **B**
2. Answer **ALL** questions in Section **A** and any **Three** from section **B**.
3. Marks for each question are indicated in the brackets.
4. A separate answer booklet will be provided.
5. Do not write on the question paper.

This paper consists of FOUR (4) printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing

SECTION A: (40 MARKS)

Answer ALL the questions in this section

1. Describe THREE reasons why information systems are so important for modern computing and business today. (3 Marks)
2. Information provides historical evidence and reduces uncertainty when making decisions. State any five qualities of good information. (5 Marks)
3. Highlight THREE principles of interface design as used in Human computer interaction. (3 Marks)
4. Different SDLC methodologies have varying benefits that comes with each process. Discuss THREE benefits of scaling Rapid Application Development methodologies for large projects or organizations. (6 Marks)
5. Hope a UX designer has been tasked with creating the user interface of a mobile application. Highlight FOUR interaction styles used in HCI that she should consider to enhance user engagement and satisfaction. (4 Marks)
6. Explain FOUR important benefits of Management Information Systems (MIS) as a strategic tool within an organizational information system. (4 Marks)
7. Lynn, a banker at Fadhili bank has been approached by a customer who wants to check his recent bank transactions for the past 2 weeks.
 - a) Identify the type of information system she is likely to use to provide the information needed by the customer. (1 Mark)
 - b) State THREE functions of the information identified 7 a) above. (3 Marks)
8. Outline THREE control structures applied in VB.Net. (3 Marks)
9. Radio buttons and checkboxes are interactive controls used in VB.NET applications. Discuss TWO differences between them. (4 Marks)
10. Glory, a system administrator for Fariji Communications Limited, is tasked with understanding and optimizing the integration of information system components. State FOUR components of an information system that she needs to consider. (4 Marks)

SECTION B: (60 Marks)*Answer any THREE questions in this section*

11.

- a) Describe TWO circumstances under which it is recommended to utilize Agile, particularly the Scrum framework. (4 Marks)
- b) Explain THREE importance of documentation in software development life cycle. (6 Marks)
- c) Emmanuel, a SCRUM master has been consulted by Rafiki Investments Limited to facilitate the development of an Agile system for their insurance agency. Explain FIVE differences between Agile Development as compared to Waterfall methodology. (10 Marks)

12.

- a) Computer-Aided Software Engineering (CASE) tools provide automated assistance during software development and enhance the quality of systems developed. Explain THREE important modeling techniques used in software development for analyzing and building information systems. (6 Marks)
- b) The SDLC provides a framework for a product team to manage the development process systematically, with clear goals and deliverables at every stage. Discuss SEVEN phases of a software development lifecycle that a product team should consider to successfully guide the entire project to completion. (14 marks)

13.

- a) The need for deliberate computer design is more crucial than ever as technology continues to advance throughout the twenty-first century. Explain FIVE benefits of HCI in personalizing interaction tools and processes. (10 Marks)
- b) TVET authority has been meaning to improve its information security management system to adapt to the evolving landscape of technology. Discuss FIVE emerging trends it should consider when improving their system. (10 Marks)

14.

- a) Explain the following terms as applied in VB.Net programming language. (10 Marks)
 - i) Object
 - ii) Property
 - iii) Method
 - iv) Event
 - v) Class

b) Mouse events and keyboard events are important event handling techniques used in VB.NET.

Write VB.Net code for each of the following event handling functions.

(10 Marks)

- i)MouseDown
- ii) MouseUp
- iii) MouseHover
- iv)KeyUp
- v)KeyDown

THIS IS THE LAST PRINTED PAGE