Republic of Rwanda
City of Kigali

GASABO DISTRICT COMPREHENSIVE ASSESSMENT

FOR 2ND TERM, ACADEMIC YEAR 2022-2023.

TRADES: SOFTWARE DEVELOPMENT

MODULE: DEVELOP SIMPLE GAME IN VUE FRAMEWORK

RTQF LEVEL: LEVEL 3 SOD

DURATION: 3 HOURS

INSTRUCTIONS TO CANDIDATES:

This Exam paper is composed of Two Sections (A, B) Follow the instructions given below, and answer the indicated questions for a total of 100 marks

Section **A**: Eleven (**12**) questions, all **Compulsory 60 marks**

Section **B**: Attempt the four (4) questions, 40 **marks**

SECTION A: Compulsory questions (60 marks)

01.What is Vue.js?/ What do you understand by Vue.js?

02. Why is Vue.js called a progressive framework?

03.Why is Vue.js supposed to be a competitor of Angular in upcoming days?

04.What is the VUE-resource? How would you install the Vue-Resource?

05. How can you create an instance of Vue.js?

06.What are the advantages of using Vue.js?

07.What are the best practices for creating folders in the Vue framework, and how do they contribute to better code organization and maintainability?

08.How can you optimize the routing system of a Vue project to handle dynamic and nested routes, while ensuring optimal performance and SEO-friendliness?

09.How can you design and implement reusable components in Vue that adhere to best practices for HTML elements, such as accessibility, semantic markup, and responsiveness, while balancing the need for flexibility and customization?

10.What are some advanced techniques for managing complex form data structures in Vue, such as nested forms, dynamic form elements, and conditional form logic, and how can you ensure data consistency and integrity across different components and data sources?

11.How can you implement robust form data handling in Vue that accounts for different user scenarios, such as input validation, error handling, data submission, and data persistence, while minimizing the risk of data loss or corruption?

12.How can you design and implement a robust API request system in Vue that accounts for different user scenarios, such as request retries, error handling, data caching, and authentication, while optimizing network performance and minimizing data transfer?

SECTION B: Attempt any Three (4) questions (40 marks)

01.Scenario: Create a simple guessing game where the user has to guess a number between 1 and 10. The user will have a limited number of attempts to guess the correct number, and the game will provide feedback on whether the guess is too high or too low.

02.What are some advanced techniques for integrating third-party services and APIs with a game deployed on a static hosting platform, such as social media sharing, analytics tracking, and payment processing, and how can you ensure that the game remains scalable and maintainable as it grows in popularity and complexity?

03. Explain the process of developing a game interface in Vue that supports different gameplay modes and settings, such as single-player vs. multiplayer, tutorial vs. advanced, and low vs. high resolution, and how can you test and validate the interface design to ensure that it meets the needs and expectations of your target audience?

04. Explain how you would leverage the power of Vue to create a dynamic and responsive game that can adapt to different user inputs and scenarios, such as device orientation, screen size, network speed, and user preferences, and how can you optimize the game performance and memory usage to ensure smooth and immersive gameplay?

END OF ASSESSMENT!