

**SWDBA401-BACKEND APPLICATION
(NODE.JS)**

DATE: FRIDAY 13 JUNE 2024

PERIOD: 08:30AM – 11:30 AM



END OF TERM III EXAMINATIONS SCHOOL YEAR: 2024/2025 QUESTION PAPER

SECTOR: ICT AND MULTIMEDIA

RQF LEVEL: 4

TRADE: SOFTWARE

DEVELOPMENT

MARKS:

CAMIS:

DURATION: 3 HOURS

INSTRUCTIONS TO

CANDIDATES:

This Exam paper is composed of Twenty-four (24) questions distributed in Three Sections (A, B, C). Follow the instructions given below, and answer the indicated questions in each section for a total of 100marks

Section A: Seventeen (17) questions, all are **Compulsory**. **55 marks** **Section B:** Five (5) questions, choose and answer any three (3). **30 marks** **Section C:** Two (2) questions, choose and answer any one (1) **15 marks**

Allowed Materials:

- Ruler
- Blue or Black pen
- Pencils

SECTION A – Knowledge & Understanding (10 marks)

Answer all questions in this section. Each question carries 1 mark.

1. Define **Node.js** as used in backend development.
2. What is the role of **npm** in a Node.js project?
3. Explain what is meant by **dependencies** in software development.
4. Define a **backend application** and give one example.
5. What is the purpose of **Express.js** in Node.js??
6. State the function of **Nodemon** during development.
7. What are **routes** in a Node.js backend system?
8. List any two **categories of Node.js client libraries**.
9. Give one use of an **HTTP client library** in Node.js..
10. Describe the function of **Postman** in backend testing.

SECTION B – Application & Differentiation (9 marks)

Answer all questions in this section. Each question carries 1½ marks.

11. Differentiate between **ES5** and **ES6** in terms of variable declaration and function syntax.
12. Explain the difference between a **class** and an **object** in JavaScript.
13. Describe how a **method** differs from a **property** in object-oriented programming.
14. State two advantages of using **arrow functions** in ES6.
15. Explain how **template literals** improve string handling in ES6.
16. Define an **API** and state its importance in backend development.
17. What is meant by the term **modular code** in JavaScript development?
18. State the purpose of using **environment variables** in backend systems.
19. Give one difference between **relational** and **non-relational** databases.

SECTION C – Analysis & Communication (6 marks)

Answer any three (3) of the following questions. Each question carries 2 marks.

20. With examples, describe how **Postman** is used to test API routes in a Node.js backend.
21. Describe three common **categories of Node.js libraries** and state one example for each.
22. With an example, explain how the **import** and **export** syntax is used in ES6 modules.