TEVETA

Technical Education, Vocational and Entrepreneurship Training Authority

DIPLOMA IN SCIENCE LABORATORY

LEVEL 6 YEAR 1 EXAMINATIONS

FINAL INTEGRATED SUMMATIVE EXAMINATIONS

SITTING: JULY/AUGUST 2025

SUBJECT: BIOLOGY I

TIME: THREE (3) HOURS **TOTAL MARKS: 100**

INSTRUCTIONS TO CANDIDATES **PASS MARK: 50**

1. Write your Examination number and National Registration Card (NRC) number on the answer booklet provided. Ensure you append your signature in the space provided on the answer booklet.
2. Write the ANSWER SCRIPT SERIAL NUMBER on the examination register and on the entry slip.
3. There are seven (7) questions in this paper. Answer five (5) questions.
4. Diagrams may be used where necessary to clarify your answer.
5. Cell phone and programmable calculators are not allowed in the examination room.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

QUESTION 1

a. Explain five (5) distinguishing features exhibited by Arachnids. **(10 marks)**

b. Differentiate between Chondrichthyes and Osteochthyes. **(10 marks)**

Total: 20 marks

QUESTION 2

a. Explain double fertilization in a flowering plant. **(10 marks)**

b. Describe the mechanism by which water moves from the soil to the outside of a leaf. **(10 marks)**

Total: 20 marks

QUESTION 3

a. Figure 1 shows a prokaryotic cell

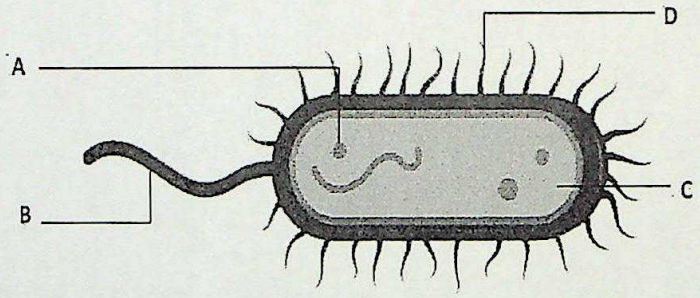


Figure 1

(i) Identify the parts labelled B, C and D. **(3 marks)**

(ii) State the functions of part B, C and D. **(3 marks)**

b. Distinguish between a prokaryotic cell and a eukaryotic cell. **(4 marks)**

c. Describe five (5) stages of mitosis. **(10 marks)**

Total: 20 marks

QUESTION 4

a. Explain how the leaf is adapted to carrying out its function. **(10 marks)**

b. Describe the mechanism of opening and closing of stomata. **(10 marks)**

Total: 20 marks

QUESTION 5

a. With the aid of a well labelled drawing describe the structure of a nucleotide. **(10 marks)**

b. Highlight five (5) differences between DNA and RNA. **(10 marks)**

Total: 20 marks

QUESTION 6

a. Define the term fire. **(2 marks)**

b. Describe the fire triangle. **(6 marks)**

c. Explain the following methods of extinguishing fires

(i) Cooling. **(4 marks)**

(ii) Smothering. **(4 marks)**

(iii) Starvation. **(4 marks)**

Total: 20 marks

QUESTION 7

a. State the key and lock hypothesis of enzymatic action. **(10 marks)**

b. Explain how the following parameters affect enzyme activity

(i) Temperature. **(5 marks)**

(ii) PH. **(5 marks)**

Total: 20 marks