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081105T4SAR**SUSTAINABLE AGRICULTURE FOR RURAL DEVELOPMENT LEVEL 5****Demonstrate Understanding for SARD****AGR/OS/SARD/CC/01/5****November/December 2025**

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

WRITTEN ASSESSMENT

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Time: 3 HOURS

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INSTRUCTIONS TO CANDIDATE1. This paper consists of **TWO** sections: **A** and **B**.

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2. Answer questions in section **A** and **ANY THREE (3)** questions in section **B**.

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3. Marks for each question are indicated in the brackets.

4. Candidates are provided with a separate answer booklet.

5. Do not write on the question paper.

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This paper consists of FOUR (4) printed pages

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could check the question paper to ascertain that all pages**are printed as indicated and that no questions are missing.**

Attempt ALL the questions in this section.

SECTION B. (60 MARKS)

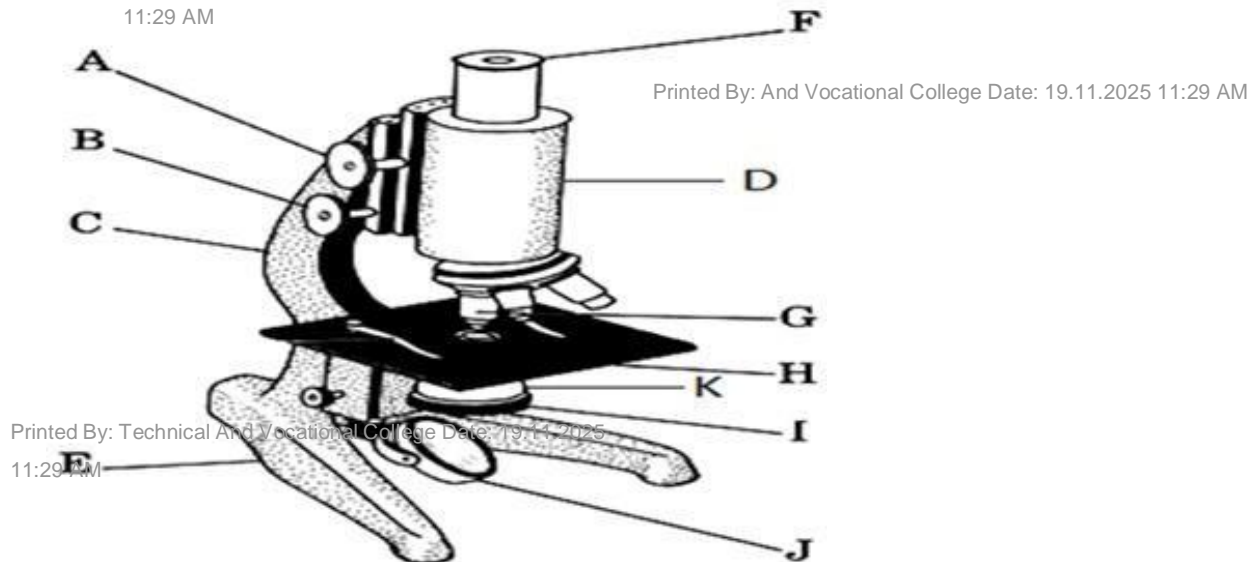
Attempt Any THREE Questions in This Section

11.

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- a. During a lab session, learners were instructed to draw a sketch of a light microscope and came up with the following diagram. Using the diagram label parts A – J, stating the function of each part identified. (10 Marks)

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- b. Enzymes are biological catalysts made of proteins. Describe FIVE properties of enzymes. (10 Marks)

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12.

- a. Living things are able to breathe and reproduce young ones of the same kind.

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Explain other FIVE features exhibited by living things. (10 Marks)

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- b. Knowledge of genetics can be used to increase all productivity and income.

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Discuss FIVE roles of genetics in livestock breeding. (10 Marks)

13. Cellular transport is essential for survival because it allows the cell to take in nutrients,

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remove waste, and maintain balance. In relation to the above;

- a. Distinguish between diffusion and active transport, using the criteria provided in the table below. (10 Marks)

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Criteria	Diffusion	Active Transport
Definition		
Concentration Gradient		
Specificity		
Transport Mechanism		

b. Explain FIVE factors that affect the rate of diffusion, explaining how each factor influences the movement of molecules across membranes. (10 Marks)

14. During a science lesson, students were learning about the physical world and its composition. The teacher introduced the concept of matter.

- a. Define matter. (1 Mark)
- b. Differentiate between the three states of matter: solids, liquids, and gases, based on their structural properties, molecular arrangement, and behavior under different conditions. (9 Marks)

State	Structure	Molecular Arrangement	Behavior
Solid			
Liquid			
Gas			

c. Describe FIVE properties of matter. (10 Marks)