



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## University Examinations 2024/2025

### SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DIPLOMA IN AGRICULTURE

#### AAD 2406: BIOCHEMISTRY

DATE: DECEMBER 2024

TIME: 1½ HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

#### QUESTION ONE (30 MARKS)

- a) Explain the following properties of carbohydrates
- i) Solubility: (3marks)
  - ii) Sweetness: (3 marks)
  - iii) Energy storage: (3 marks)
  - iv) Structural support: (3 marks)
- b) Explain the various components of a bio-membrane. (8 marks)
- c) Why are the following important in the body:
- i) Amino Acids (2 marks)
  - ii) Proteins (2 marks)
  - iii) Carbohydrates (2marks)
- d) Discuss the role of carbohydrates (4 marks)

#### QUESTION TWO (15 MARKS)

- a) Explain the various molecular components of a cell. (8 marks)

- b) Explain the properties of bio-membranes. (7 marks)

**QUESTION THREE (15 MARKS)**

- a) Explain the classification of carbohydrates (8 Marks)  
b) Discuss the various tests used to indicate the presence of carbohydrates. (7 marks)

**QUESTION FOUR (15 MARKS)**

- a) Explain and classify proteins based on their structure, function and composition. (10 marks)  
b) Explain the properties of proteins (5 marks)