



ZIMBABWE

**MINISTRY OF HIGHER AND TERTIARY EDUCATION,
INNOVATION, SCIENCE AND TECHNOLOGY
DEVELOPMENT**

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL DIPLOMA

IN

APPLIED BIOLOGICAL TECHNOLOGY

MODULE: Biochemical Analysis

PAPER NO: 503/23/M01

DURATION: 3 Hours

JUNE 2026 EXAMINATION

REQUIREMENTS

INSTRUCTIONS TO CANDIDATE

- 1. Answer any five (5) questions.**
- 2. Do not write anything on the question paper.**

PAPER NO: 503/23/M01 – BIOCHEMICAL ANALYSIS

QUESTION 1

- a) Highlight the formation of a peptide bond with the aid of a diagram. (10 marks)
- b) List the five (5) functions of amino acids. (5 marks)
- c) Give the differences between fibrous and globular proteins. (5 marks)

QUESTION 2

- a) Explain the extraction of lipids by solvent extraction. (10 marks)
- b) Describe the molecular structure of triglycerides and phospholipids. (10 marks)

QUESTION 3

Using examples describe the sources of reducing and non-reducing sugars. (20 marks)

QUESTION 4

- a) Outline the Classes of vitamins and their functions. (10 marks)
- b) Distinguish between wet and dry ashing techniques. (10 marks)

QUESTION 5

- a) State and explain examples of co-enzymes and their functions. (10 marks)
- b) Describe the following methods of vitamin determination (i) colorimetric ii) uv spectrophotometer. (10 marks)

QUESTION 6

Explain the characteristics of enzymes and their role in biological systems. (20 marks)

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