

BINDURA UNIVERSITY OF SCIENCE EDUCATION  
BIOLOGICAL SCIENCES DEPARTMENT  
BScBZH/HBScBIOTEC  
BIOCHEMISTRY (BTEC112)/BZH108

EXAMINATION

2 HOURS (100 MARKS)

7 APR 2025

INSTRUCTIONS TO CANDIDATES

Answer FOUR questions. You MUST answer QUESTION 1 (Section A) and any THREE questions from Section B. Each question carries 25 MARKS. Where a question contains sub-divisions, the mark value of each sub-division is given in brackets. Illustrate your answer where appropriate with large clearly labelled diagrams. You should not spend more than thirty minutes on each question

**SECTION A (COMPULSORY)**

1. Describe a protocol to identify carbohydrates in a given biological sample.

**SECTION B**

2. Write short notes on any FIVE of the following:

(a) Mitochondria.	(5 marks)
(b) Mutarotation.	(5 marks)
(c) Chemical constituents of the cell.	(5 marks)
(d) Transfer RNA (tRNA).	(5 marks)
(e) Cytochrome oxidase.	(5 marks)
(f) Porphyrins.	(5 marks)
3. Explain the catalytic role of enzymes in accelerating reactions in living organisms.
4. (a) Describe any **THREE** forms of carcinogenesis. (15 marks)  
(b) Outline any **FIVE** important tumour markers. (10 marks)
5. Explain the influence of factors on enzyme-catalyzed reaction.
6. Describe the beta-oxidation of fatty acids.

END OF EXAMINATION QUESTION PAPER