

BINDURA UNIVERSITY OF SCIENCE EDUCATION
BIOLOGICAL SCIENCES DEPARTMENT

BScBZH/ HBScEdBz
ANIMAL PHYSIOLOGY (BZH 205)

EXAMINATION
2 HOURS (100 marks)

 **MAR 2023**

INSTRUCTIONS

Answer **FOUR** questions. You must answer question 1 (Section A) and any other **THREE** questions from Section B. Each question carries 25 marks. Where a question contains subdivisions, the mark value of each subdivision is given in brackets. Illustrate your answer where appropriate with large clearly diagrams. You should not spend more than 30minutes on each question.

SECTION A (COMPULSORY)

1. Describe an experiment to establish the distribution of digestive enzymes in a named arthropod.

SECTION B

2. (a) Compare and contrast cardiac, skeletal, and smooth muscles. (15 marks)
(b) Describe the excitation-contraction coupling. (10 marks)
3. (a) Explain the stages of an action potential and how action potentials are propagated. (15 marks)
(b) Compare and contrast chemical and electrical synapses. (10 marks)
4. (a) Using suitable examples in each case, describe the interactions of hormones at target cells. (15 marks)
(b) Outline the mechanism of insulin secretion by B cells of the pancreas. (10 marks)
5. (a) Compare and contrast the three tunics that make up the walls of most blood vessels. (12 marks)
(b) Outline the major events of the cardiac cycle. (13 marks)
6. Discuss the morphological, anatomical, physiological, and behavioral adaptations by animals to aquatic and terrestrial mode of life.

END OF EXAMINATION QUESTION PAPER