

**BINDURA UNIVERSITY OF SCIENCE EDUCATION
BIOLOGICAL SCIENCES DEPARTMENT
BScBZH
BZM401 (ADVANCED IMMUNOLOGY)**

14 MAR 2023

**EXAMINATION 2 HOURS
MARKS)**

(100

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. (a) Discuss any TWO laboratory-based immunological assays for detection of SARS-CoV-2 in infected patients. (18 marks)
- (b) Elaborate on the shortcomings of the rapid antibody assays that are laboratory-based in 1(a) above. (7 marks)

SECTION B

2. Describe the diagnostic and therapeutic approaches of immune reactions.
3. Give an account of the regulation, expression and diversity of immunoglobulin genes.
4. Write an essay of somatic hypermutation of immunoglobulin genes.
5. Describe the location, structure, and function of major histocompatibility complex.
6. Discuss the applications of immunogenomics to cancer management.

END OF EXAMINATION QUESTION PAPER