

BINDURA UNIVERSITY OF SCIENCE EDUCATION
BIOLOGICAL SCIENCES DEPARTMENT
BACHELOR OF SCIENCE HONOURS DEGREE IN BIOLOGY
BZM414 (IMMUNOLOGY)/BZH221 (IMMUNOLOGY)

MAR 2023

EXAMINATION 2 HOURS

(100 MARKS)

INSTRUCTIONS TO CANDIDATES

Answer FOUR (4) questions. You MUST answer QUESTION 1 from Section A and any THREE (3) questions from SECTION B. Each question carries 25 marks. Where a question contains subdivisions, the mark value of each part is given in brackets. Illustrate your answer where appropriate with large clearly labeled diagrams. You should not spend more than 30 minutes on each question.

SECTION A (COMPULSORY)

1. (a) Define the following terms:
 - (i) Immunodiffusion. (3 marks)
 - (ii) Opsonization. (3 marks)
- (b) Explain the reasons behind antibodies being termed immunoglobulins. (5 marks)
- (c) Explain the role of a chromogen in an immunoassay. (4 marks)
- (d) Describe the final effects of complement activation. (5 marks)
- (e) Describe the events depicted in the following diagram labelled figure 1. (5 marks)

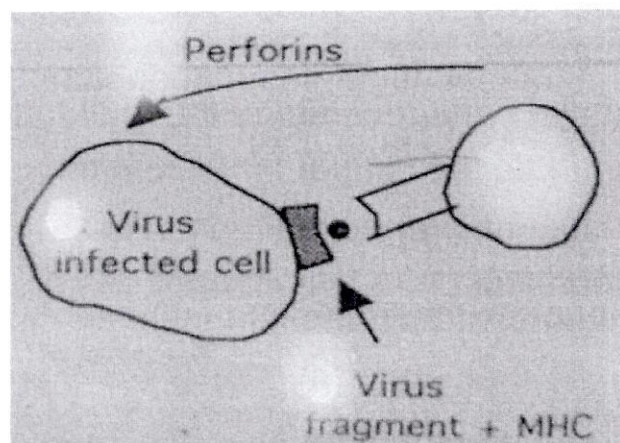


Figure 1: Structure of a type of immunological cell acting on virus infected cell.

SECTION B

2. Using a diagram to show positions of organs, give an outline of the primary and secondary lymphoid system.
3. Describe the biochemical changes that occur during primary and secondary immune responses.
4. With the aid of a diagram, explain the immunoelectrophoresis technique.
5. Explain the relevance of single radial and double diffusion techniques.
6. Describe the process of observing immunoprecipitation in the laboratory.

END OF EXAMINATION QUESTION PAPER

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