

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

**EXAMINATION
MARKS)**

2 HOURS (100

OCT 2024

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. Write short notes on the following:

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|---------------------------------------|-----------|
| (a) T-cell types. | (5 marks) |
| (b) Antigenic determinants. | (5 marks) |
| (c) Effects of complement activation. | (5 marks) |
| (d) Autoimmune disease. | (5 marks) |
| (e) Allergenicity prediction. | (5 marks) |

SECTION B

2. Describe the biochemical events that lead to inflammation.
3. Give an account of the pathophysiological effects produced by Gram +ve bacterial endotoxins.
4. (a) Elucidate the immunogenicity of penicillin. (5 marks)
(b) Outline the opportunities and challenges of applying proteomics in treatment of infectious diseases. (20 marks)
5. Using examples, describe the nature of vaccines developed to prevent viral and bacterial diseases in humans.
6. Write an essay on the production of cytokines using Recombinant DNA Technology.

END OF EXAMINATION QUESTION PAPER