

B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)**Subject : Zoology****Course : CC-X****(Immunology)****Time: 2 Hours****Full Marks: 40**

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their
own words as far as applicable.*

Group-A

1. Answer *any five* questions of the following: $2 \times 5 = 10$
- (a) What is ADCC?
 - (b) Define endotoxins.
 - (c) What is CRP? Mention its functions.
 - (d) Differentiate between primary and secondary immune responses.
 - (e) What is adjuvant? Mention its functions.
 - (f) What is DTP? Define opsonization.
 - (g) What is immune-proteasome?
 - (h) What is the full form of 'MALT'? State its significance.

Group-B

2. Answer *any two* questions of the following: $5 \times 2 = 10$
- (a) Outline the general mechanism of Type-I hypersensitivity reaction.
 - (b) Write a short note of cytosolic pathway of antigen presentation.
 - (c) Differentiate $CD4^+$ and $CD8^+$ cells. What are APCs? State the functions of MAC. $2+2=1$
 - (d) What are PAMPs? Give examples. Define hypersensitivity. $3+2$

Group-C

3. Answer *any two* questions of the following: $10 \times 2 = 20$
- (a) What is 'macrophage activation'? How do 'activated' macrophages differ from non-activated macrophage? Write a note on dendritic cells. $2+3=5$
 - (b) Draw and describe the basic structure of IgG. Give a brief account of positive and negative selection of thymocytes in thymus. $6+4$
 - (c) Describe the molecular structure of MHC I and mention its important functions. Compare and contrast B-cell and T-cell epitope. $5+5$
 - (d) Discuss the advantages and disadvantages of DNA vaccine. $5+5$