

REV-01
MSZ/92/97

2023/06

M.Sc. ZOOLOGY
FOURTH SEMESTER
IMMUNOLOGY, BIOINFORMATICS &
RESEARCH METHODOLOGY

**SET
C**

MSZ-401
[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

(Objective)

- Which one of the following cells are long lived?
 - Plasma cells
 - Memory cells
 - B cells
 - T cells
- Which of the following cells are short lived?
 - NK cells
 - T cells
 - B cells
 - Neutrophil cells
- A set of proteins located on the surface of all vertebrate nucleated cells are:
 - Major Histocompatibility Complex
 - Macrophages
 - Gamma globulin
 - Plasma globulin
- Which one of the following is an antigen presenting cell?
 - Dendritic cell
 - Eosinophil
 - Basophil
 - Mast cell
- In which of the following tissues, Dendritic Cells are named as "Langerhan's Cells"?
 - Blood & Lymph
 - Heart & Lung
 - Skin & Mucous membrane
 - Thymus
- Select the function of the members of Ig superfamily.
 - As cell surface antigen receptor
 - As co-receptor
 - As certain cytokine receptor
 - All of these
- Which one is not an antigen presenting molecule?
 - MHC I
 - MHC II
 - CD 28
 - Beta-2 anicroglobulin
- Memory Cells are produced by:
 - Only B cells
 - Only T cells
 - Both B and T cells
 - None of these
- During first exposure to pathogens, rapid increase in Antibody concentration occurs in:
 - Lag phase
 - Log phase
 - Stationary phase
 - Declining phase
- Example of inactivated whole organism vaccine is the vaccine for:
 - Cholera
 - Influenza
 - Rabies
 - All of these

11. Industrial design may consist of:
 - a. Shape of an article
 - b. Size of an article
 - c. Lines or colour
 - d. All of the above
12. In which year, the Prevention of Cruelty to Animal Act was enacted?
 - a. 1960
 - b. 1972
 - c. 1980
 - d. None of these
13. For registration under IPR, an invention must meet the criteria of:
 - a. Novelty
 - b. Non-obviousness
 - c. Industrial application
 - d. All of the above
14. The fundamental research aimed at finding:
 - a. Back ground information
 - b. Conclusion
 - c. Both a & b
 - d. A solution
15. What is the full form of IAEC?
 - a. Institutional Animals Ethics Committee
 - b. Institutional Animal Ethics Committee
 - c. Institutional Animal Ethical Committee
 - d. None of these
16. Excess of antibody inhibits agglutination which is a phenomenon called:
 - a. Prozone effect
 - b. Acoustic effect
 - c. Phylogenic effect
 - d. All of the above
17. To some extent, cross-reactivity greatlyspecificity.
 - a. Reduces
 - b. Increases
 - c. Inhibits
 - d. Reacts
18. The antibody which is most efficient in agglutination reaction is:
 - a. IgG
 - b. IgM
 - c. IgE
 - d. IgA
19. In Sandwich ELISA:
 - a. Antibody is sandwiched between two antigen
 - b. Antigen is sandwiched between two antibodies
 - c. Antigen and Antibody remains parallel
 - d. None of the above
20. An Agar gel is used as a matrix to combine diffusion with.....
 - a. Sedimentation
 - b. Precipitation
 - c. Neutralization
 - d. Placentation

-- --- --

(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

- | | |
|--|----------|
| 1. Write short note on:
a) CPCSEA
b) IAEC | 5+5=10 |
| 2. What are databases? State primary, secondary and composite databases with examples. Mention the significances of databases. | 2+6+2=10 |
| 3. Discuss briefly about T cell receptor with special emphasis on TCR complex and the molecules involved therein. | 10 |
| 4. Elucidate in detail about Cross reactivity citing suitable examples and add a note on their biological significance. | 8+2=10 |
| 5. Name the blood cells involved in acquired immune system. Write a note on their origin and functions. | 2+8=10 |
| 6. What are the organs involved in immune system? Write the structure and functions of any two of them. | 4+6=10 |
| 7. Mention different classes of immunoglobulins. Explain the structure of an immunoglobulin molecule. | 2+8=10 |
| 8. Write differences between:
a) Monoclonal and polyclonal antibodies
b) Affinity and avidity of antibodies | 5+5=10 |

= = *** = =