

M.Sc. 2nd Semester Examination, 2025

MICROBIOLOGY

(Immunology)

PAPER – MCB-202

Full Marks : 25

Time : 1 hour

Answer all questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP – A

Answer any two questions : 2×2

- 1. What are the roles of secondary lymphoid organ ?**

(Turn Over)

2. Characterize macrophage cell highlighting structural and functional aspects.
3. Write the function of TLR4 and TLR5.
4. Write the function of NOD-like receptor in innate immunity.

GROUP – B

Answer any two questions : 4×2

5. State the effects on immunoglobulin treatment with papain and pepsin enzyme. Discuss the clonal selection theory of antibody production. $2 + 2$
6. What are complements ? How complement factors are activated through classical pathway ? $1 + 3$
7. Write down the input factors and body response of an inflammation.

8. A patient is suffering from Systemic Lupus Erythematosus an auto-immune disease. Write the major cause inflammation in patients.

GROUP – C

Answer any one question : 8×1

9. What do you mean by 'MHC restriction'? Illustrate the general structure of class-I and class-II MHC molecules indicating chains, domains and regions forming antigen-binding cleft. Discuss critically the molecular mechanism of antigen processing and presentation of exogenous pathway with suitable diagram. 1+3+(3+1)
10. Distinguish between immediate and delayed type of hypersensitivity with respect to their mechanism of action. Discuss the different mechanisms of leading to the development of autoimmunity. (2+2)+4

[Internal Assessment – 5 Marks]

