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BACHELOR OF SCIENCE (CBCS-2018 COURSE)
T. Y. B. Sc. Sem-VI : WINTER- 2022
SUBJECT : MICROBIOLOGY : IMMUNOLOGY

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 7/12/2022

W-18487-2022

Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagram **WHEREVER** necessary.
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Q.1 Attempt any **TWO** of the following (12)

- a) Explain the general structure of immunoglobulins
- b) What are interleukins? Explain their types and role.
- c) With the help of neat and labelled diagram discuss the cytology and functions of macrophages

Q.2 Answer any **TWO** of the following (12)

- a) What are epitopes? Discuss sequential and conformational epitopes
- b) Explain antigen presentation by endogenous pathway
- c) What are antigens? Explain their types on the basis of origin

Q.3 Attempt any **TWO** of the following (12)

- a) Write a note on B cells.
- b) Explain the types and properties of interferons
- c) Describe Burnet's clonal selection theory of antibody formation

Q.4 Write short notes on any **THREE** of the following (12)

- a) NK cells
- b) Haptens
- c) TNF
- d) Applications of monoclonal antibodies

Q.5 Attempt any **FOUR** of the following (12)

- a) What is hypersensitivity? Explain type IV hypersensitivity reaction
- b) Explain cytokine signaling by JAK / STAT pathway
- c) Describe the structure of TCR
- d) What are immunogens ? Explain the factors determining immunogenicity
- e) Explain the concept of iditopes and idiotypes.
- f) What are the allotypes of immunoglobulin

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