Mode of Examination: Open Book Examination

Unique Paper Code	:	42237904
Name of the Paper	:	Immunology
Name of the Course	:	B.Sc. (P) Life Sciences Examination, 2021
Semester	:	VI, CBCS (DSE)
Duration	:	3 Hours
Maximum Marks	:	75

Instructions for Students

Write your Roll No., Name of the paper, Course, Semester, and Date of examination on the first page of answer sheet.

Attempt ANY FOUR questions. All questions carry equal marks.

Substantiate your answer with diagrams wherever necessary

Q1. Assess the statement," All immunogens are antigens but not all antigens are immunogens" with suitable examples and highlight the immunogenic properties of molecules. Explain B and T–Cell epitopes. 18.75

Q2. Many of the effector functions of immunoglobulin are brought about with the help of various cells and molecule. Describe 3 such functions involving complement activation, opsonization and ADCC. 18.75

Q3. Cytokines are mainly secreted by TH cells in response to antigen stimulation. Describe the pathway by which antigen presenting cells process and present antigen to TH cell. Describe how specificity is maintained in resulting cytokine response. 18.75

Q4. There are several cells that cooperate in immune system. Describe the cells that are responsible for innate and adaptive immune response and how they cooperate with each other.

18.75

Q5. Many autoimmune diseases involve hypersensitivity reactions of the humoral branch of immune system. Describe these hypersensitivity reactions with suitable autoimmune diseases examples. 18.75

Q6. A bacterial protein that can confer protective immunity against the pathogenic bacteria can be used for vaccination in various formats. The gene for that protein can be cloned and expressed, yielding a recombinant protein to be used as vaccine. That gene can also be used in a recombinant vector vaccine or a DNA Vaccine. Describe all these vaccine types with their advantages and disadvantages. 18.75