KNT/KW/16/5164

Bachelor of Science (B.Sc.) Semester—IV (C.B.S.) Examination

BIOTECHNOLOGY (Immunology)

Paper—I

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.
(2) Draw diagrams and give suitable examples wherever required.

1. Describe the Secondary lymphoid organs. 10

OR

What is Acquired Immunity ? Describe active and passive immunity. 10

2. Draw a well labelled diagram of an immunoglobulin. Give the salient features of immunoglobulin molecule. Briefly describe functions of various immunoglobulins. 10

OR

(a) Write a note on delayed type of hypersensitivity. 5
(b) Describe the mechanism of NK cell mediated immunity. 5

3. Give Gel and Coomb's classification of hypersensitivity. Describe the anaphylaxis. 10

OR

(a) Describe Serum Sickness. 5
(b) Write a note on Autoimmunity. 5

4. Describe the various applications of Agglutination reaction. 10

OR

(a) Describe radial immunodiffusion. 2½
(b) Add a note on complement fixation test. 2½
(c) How monoclonal antibodies are produced ? 2½
(d) Diagrammatically explain direct ELISA. 2½

5. Solve any **TEN** of the following :
(i) What is Innate Immunity ? 1
(ii) Define Hapten. 1
(iii) Name any two pathways of complement system. 1
(iv) What is Tc cell ? 1
(v) What is ADCC ? 1
(vi) What is Cytokine ? 1
(vii) Define Vaccination. 1
(viii) What is Erythroblastosis Faetalis ? 1
(ix) What is Arthus Reaction ? 1
(x) Define Antibody Titre. 1
(xi) What is Immunodiffusion ? 1
(xii) Give one advantage of indirect ELISA over direct ELISA. 1