NKT/KS/17/5164

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

BIOTECHNOLOGY (Immunology)

Paper—I

Time : Three Hours] [Maximum Marks : 50

N.B. :— All questions are compulsory and carry equal marks.

1. Discuss various factors affecting antigenicity. 10

OR

Discuss the classical and alternate complement pathways. 10

2. Explain in detail delayed hypersensitivity. 10

OR

Describe various types of cytokines and their functions. 10

3. (a) Explain type I hypersensitivity. 5

(b) Compare live and killed vaccines with examples. 5

OR

(c) Describe type III hypersensitivity. 5

(d) Describe the general concept of autoimmunity. 5

4. Write notes on :

(a) Lattice hypothesis 2½

(b) Slide agglutination reactions 2½

(c) Radial immuno diffusion 2½

(d) Direct Coomb's test. 2½

OR

(e) Precipitation reaction 2½

(f) Complement fixation test 2½

(g) Direct ELISA test 2½

(h) Hybridoma technology. 2½

5. Solve any **ten** of the following :

(i) Give an example of natural passive immunity. 1

(ii) What are antigen presenting cells ? 1

(iii) What is a complete antigen ? 1

(iv) Write the full form of MHC. 1

(v) What is a T-Cell receptor ? 1

(vi) Which immunoglobulin is usually present as pentamer ? 1

(vii) What are edible vaccines ? 1

(viii) Give the full form of DPT. 1

(ix) Name any two type II hypersensitivity complexes. 1

(x) Give two applications of monoclonal antibodies. 1

(xi) Define antibody titre. 1

(xii) What is tube agglutination test ? 1