KNT/KW/16/5093

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

BIO-CHEMISTRY

(Microbiology and Immunology)

Compulsory Paper—2

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. What are basic nutritional requirements of bacteria ? Give a brief account of nutritional classification of bacteria. 10

OR

What is a pure culture ? Describe any two methods of obtaining pure culture. 10

2. Write notes on :

(a) Moist heat under pressure 5

(b) Radiation as a microbial control agent. 5

OR

(c) Factors influencing antimicrobial activity. 5

(d) Phenol coefficient and procedure used for standardization of a disinfectant. 5

3. (a) Differentiate between active and passive immunity. 2½

(b) Write a brief note on structure and function of lymph node. 2½

(c) What is the use of Ouchterlony double diffusion test ? 2½

(d) Draw the structure of IgG and give two important functions. 2½

OR

(e) Write a brief note on structure and function of spleen. 2½

(f) Draw the structure of IgM and give two important functions. 2½

(g) Write a note on agglutination test. 2½

(h) Write a note on innate immunity. 2½

4. (a) Give a brief idea of complement system. 5

(b) Write a note on 'Humoral Immunity'. 5

OR

(c) What is 'Hybridoma Technique' ? Give its applications. 5

(d) Write a note on cytotoxic T-cell mediated immunity. 5

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

(i) What is an auxotroph ? 1

(ii) What are micro nutrients ? 1

(iii) What is the use of enrichment medium ? 1

(iv) Define thermal death time. 1

(v) Name any two antibiotics. 1

(vi) What is the difference between a bactericidal and a bacteriostatic compound ? 1

(vii) Which part of an antibody binds the antigen ? 1

(viii) What is a hapten ? 1

(ix) Define an antigen. 1

(x) What is the function of T-helper cell ? 1

(xi) What are monoclonal antibodies ? 1

(xii) What is phagocytosis ? 1