

B.Sc. (CBCS Pattern) Sem-IV
Biotechnology : Paper-II (Immunology and Biostatistics)

P. Pages : 2

Time : Three Hours



GUG/S/19/11995

Max. Marks : 50

1. Discuss in detail about secondary lymphoid organs. 10

OR

- a) Write a note on Thymus. 2½
- b) Discuss in brief about granulocytes. 2½
- c) Give the classification of Immunity. 2½
- d) Give a brief account on IgA. 2½

2. Give detail information about MHC-I and MHC-II molecules. 10

OR

- a) Write a note on ADCC. 2½
- b) Discuss about Innate immunity. 2½
- c) What is delayed type hypersensitivity? 2½
- d) Give the significance of vaccination. 2½

3. Describe Hybridoma technology with its application in immunodiagnosis. 10

OR

- a) Write a note on complement fixation test. 2½
- b) Describe VDRL test and its significance. 2½
- c) Discuss the mechanism of precipitation test. 2½
- d) Give the information about radial immunodiffusion. 2½

4. Describe in detail about various methods of presentation of statistical data. 10

OR

- a) Discuss about standard deviation. 2½
- b) Write a note on chi-square test. 2½

- c) Describe any one method of sampling. 2½
- d) Give brief account on correlation and regression. 2½

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

- a) What is Active immunity? 1
- b) What is the function of NK cells? 1
- c) Which antibody is responsible for allergic reactions? 1
- d) Give the full form of ADCC. 1
- e) Define hypersensitivity. 1
- f) Give the two examples of Autoimmune disorders. 1
- g) Enlist two examples of toxin-antitoxin reaction. 1
- h) Give the full form of ELISA. 1
- i) For which disease the Widal test is performed? 1
- j) Define mode. 1
- k) What is sampling error? 1
- l) What is range? 1
