

B.Sc. (CBCS Pattern) Sem-IV
011B - Biotechnology Paper-II : Immunology and Biostatistics

P. Pages : 2

Time : Three Hours



GUG/W/22/11995

Max. Marks : 50

1. Give detail account on primary lymphoid organs. 10

OR

- a) Give brief account on granulocytes. 2½
- b) Give the information about B cells. 2½
- c) Discuss in brief about the classification of immunity. 2½
- d) Write notes on IgM. 2½

2. What is Hypersensitivity? Give detail account on delayed type of hypersensitivity. 10

OR

- a) Give an account on Innate Immunity. 2½
- b) Give the information about MHC-II molecules. 2½
- c) Discuss the significance of vaccination. 2½
- d) Discuss the concept of autoimmunity. Explain it with example. 2½

3. Give detail account on Hybridoma technology. 10

OR

- a) Give an account on complement fixation. 2½
- b) Discuss about toxin-antitoxin reaction. 2½
- c) Discuss the mechanism of ELISA test. 2½
- d) Give the information about radial immunodiffusion method. 2½

4. Discuss about various methods of presentation of statistical data. 10

OR

- a) Describe mean deviation. 2½
- b) Discuss Chi-square test. 2½

c) Give an account on standard error. 2½

d) Discuss any one method of sampling. 2½

5. Attempt **any ten** of the following. **10**

a) What is passive immunity?

b) Which antibody is known as secretory antibody?

c) Which antibody is responsible for allergic reactions?

d) Give the full form of ADCC

e) Which test is used to check delayed type of hypersensitivity?

f) Enlist any two autoimmune disorders

g) What is antigen?

h) What is the significance of Widal test?

i) Give the full form of VDRL

j) Define mean

k) What is range?

l) What is the meaning of regression?
