

Bachelor of Science (B.Sc.) Fourth Semester
B.Sc. 2472 - Biotechnology : Paper-II (Immunology and Biostatistics)

P. Pages : 2

Time : Three Hours



GUG/W/18/1303

Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.

1. Describe in detail secondary lymphoid organs. 10

OR

Explain in detail MHC class I and class II molecules. 10

2. Describe in detail about hybridoma technology and its application in immunodiagnosis. 10

OR

Discuss the measures of central tendency with their merits. 10

3. a) Give account on classification of immunity. 2½

b) Write the general features of complement system. 2½

c) Write about radial immunodiffusion array. 2½

d) Write about sampling errors. 2½

OR

e) Describe the structure of IgG antibody. 2½

f) Explain delayed type hypersensitivity. 2½

g) Describe ELISA technique. 2½

h) Write about chi-square test. 2½

4. a) Describe the structure of IgM antibody. 2½

b) What is vaccine? Describe different types of vaccines. 2½

c) Write about complement fixation test. 2½

d) Write about histograms and pie charts. 2½

OR

e) Write about granulocyte and agranulocytes. 2½

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| f) Differentiate between Active and passive immunity. | 2½ |
| g) Explain VDRL test. | 2½ |
| h) Write about frequency distribution table. | 2½ |

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

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| a) What is the role of I _g A antibody? | 1 |
| b) What is ADCC? | 1 |
| c) Name the first antibody produced in infant. | 1 |
| d) What is autoimmunity. | 1 |
| e) What are cytokines? | 1 |
| f) What is phagocytosis? | 1 |
| g) What is monoclonal antibody? | 1 |
| h) Define agglutination reaction. | 1 |
| i) What is WIDAL test? | 1 |
| j) Define dendrogram. | 1 |
| k) What is regression? | 1 |
| l) Name different methods of sampling. | 1 |
