

B.Sc. (Part-I) (With Credits)-Regular-Semester 2012 Sem II
2SBC-T2 - Biochemistry Paper-II (Microbial Physiology and Immunology) (Old)

P. Pages : 2

Time : Three Hours



GUG/S/18/5563

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labelled diagrams wherever necessary.

1. Define growth and describe in detail growth curve of bacterial population. **10**

OR

Discuss the nutritional classification of bacteria with respect to:

- i) Phototrophs. **5**
ii) Chemotrophs. **5**

2. What are immunoglobulins? Give the basic structure of IgG and discuss other types of immunoglobulins in brief. **10**

OR

Define hybridomas. Explain the production of monoclonal antibodies and add a note on its applications. **10**

3. a) Write a note on chemostat. **2½**
b) What is the role of vitamins and growth factors in nutrition of micro-organisms? **2½**
c) Discuss the agglutination reaction. **2½**
d) Discuss in brief-clonal selection theory. **2½**

OR

- e) Describe any one method of total cell count. **2½**
f) Write a brief note on enrichment culture. **2½**
g) Draw a well labelled diagram of thymus. **2½**
h) Explain the classical pathway of complement system. **2½**
4. a) Write a note on turbidostat. **2½**
b) Describe the streak plate method. **2½**
c) Differentiate between active and passive immunity. **2½**

d) Write a note on alternate pathway of complement system. 2½

OR

e) Classify bacteria on the basis of gaseous requirement. 2½

f) Write a note on pour plate method of isolation of microorganisms. 2½

g) Write a note on phagocytosis. 2½

h) Give a brief account of cell mediated immunity. 2½

5. Attempt **any ten** of the following. **1x10**
=10

a) What is synchronous culture?

b) State any one method of viable cell count.

c) Define generation time.

d) Write the role of nitrogen as nutritional requirement of bacteria.

e) How carbon is important in bacterial nutrition?

f) What do you mean by pure culture?

g) What are null cells?

h) In foetus stem cells are found in ----- (Fill in the blank).

i) Define adjuvant?

j) Who proposed the clonal selection theory?

k) What is secondary immune response?

l) State any one difference between cell mediated and humoral immunity.
