

## Second Semester B. Sc. Examination

## MICROBIOLOGY

## Paper - I

## (Microbial Physiology)

Time : Three Hours ]

[ Max. Marks : 50

N. B. : (1) All questions are compulsory and carry equal marks.  
 (2) Draw neat and well labelled diagram wherever necessary.

1. Describe basic nutritional requirements of bacteria.

OR

Describe synthetic and non-synthetic media with suitable examples. 10

2. Describe growth curve.

OR

What is continuous culture? Explain turbidostat method to obtain it. 10

3. (a) Describe sterilization methods using dry heat. 5  
 (b) Write characteristics of ideal antimicrobial agents. 5



## OR

(c) Explain laminar air flow method with suitable diagram. 5

(d) Give the mechanism of U.V rays as a means of microbial control. 5

4. Write notes on :—

(a) Quaternary ammonium compounds. 2  $\frac{1}{2}$

(b) Halogens. 2  $\frac{1}{2}$

(c) Heavy metals. 2  $\frac{1}{2}$

(d) Alcohols. 2  $\frac{1}{2}$

## OR

Write notes on :—

(e) Gaseous sterilization. 2  $\frac{1}{2}$

(f) Chemotherapeutic agents. 2  $\frac{1}{2}$

(g) Injury to cell wall. 2  $\frac{1}{2}$

(h) Inhibition of enzyme activity. 2  $\frac{1}{2}$

5. Solve any ten :—

(i) What are enriched media ?

(ii) What is meant by axenic culture ?

(iii) Give two examples of selective media

(iv) Define generation time.



- (v) What are thermophiles ?
- (vi) What is meant by microaerophilic organisms ?
- (vii) Define microbiostatic agent.
- (viii) What are sanitizers ?
- (ix) Name the metals used in inoculating needle. Give reason.
- (x) Define phenol coefficient.
- (xi) Name any two aldehydes used as antimicrobial agents.
- (xii) What are the components of Lysol ?  $1 \times 10 = 10$