

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.

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Contd.



- (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 ?  $1 \times 10 = 10$