

AI-125

April-2022

B.Sc., Sem.-VI

308 : Biochemistry

(Advanced Microbiology)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- (1) All questions in Section – I carry equal marks.
 - (2) Attempt any **THREE** questions in Section – I.
 - (3) Questions in Section – II is compulsory.
 - (4) Marks are indicated on the right in brackets.
 - (5) Draw diagrams wherever necessary.

SECTION – I

1. (A) What is the difference between Sterilization and disinfection? Write a note on Phenol co-efficient test. 7
- (B) Discuss the mode of action and uses of radiations in sterilization. 7
- (A) Discuss any six types of media with examples in detail. 7
- (B) Write a note on Nutritional categories of bacteria with examples 7
3. (A) Classify the bacteria based on their temperature requirements, giving examples. 7
- (B) Discuss cultivation of Anaerobic bacteria. 7
- (A) Define pure culture. Discuss different methods of preservation of pure culture. 9
- (B) Write a note on Diauxic growth. 5
5. (A) Discuss in detail the causative agent, transmission, pathogenesis, symptoms of Typhoid. 9
- (B) List the diagnostic tests for Tuberculosis and AIDS. Name the vaccine against Tuberculosis and Typhoid. 5

6. (A) Write a note on source, mode of action, uses and limitations of : 8
 (1) Penicillin
 (2) Chloramphenicol
 (B) List the ideal properties of a Chemotherapeutic agent. 6
7. (A) Discuss the industrial production of : Beer 7
 (B) Discuss the industrial production of: Transformation of steroids. 7
8. (A) Explain the design of a Bioreactor with a labelled diagram. 7
 (B) Name the types of fermentation process. List its functions of a Bioreactor. 7

SECTION - II

9. Attempt any **Eight** questions :
- (1) Define Tyndallisation.
 - (2) What is the mode of action of hot air oven ?
 - (3) What is oligodynamic action ?
 - (4) How do we sterilize Laminar hood ?
 - (5) Define DRT.
 - (6) Define Generation time.
 - (7) Define facultative Anaerobe.
 - (8) What factors lead to stationary phase during growth of bacteria ?
 - (9) Name the organism with full form which causes AIDS.
 - (10) Define chemotherapeutic Index.
 - (11) Give any one factor which leads to drug resistance.
 - (12) What is the mode of action of Sulpha Drug ?
 - (13) Name the two important raw materials used in Penicillin Production.
 - (14) Define is fed batch culture.
 - (15) Name the organism used in Lysine production.
 - (16) Give any two uses of Vinegar.