

Seat No. : _____

AC-113

April-2023

B.Sc., Sem.-VI

CC-308 : Biochemistry

Time : 2:30 Hours]

[Max. Marks : 70

- Instructions :**
- (1) Attempt **All** questions.
 - (2) **All** questions carry equal marks.
 - (3) Question **5** is compulsory.
 - (4) Draw diagrams wherever necessary.

1. (A) Define with examples : 8
 - (1) Sanitizer
 - (2) Tyndallisation
 - (3) Pasteurization
 - (4) Disinfection
- (B) Discuss the mode of action and uses of heavy metals in sterilization. 6
- OR**
- (A) Write a note on : 8
 - (1) Differential media
 - (2) Natural media
 - (3) Enriched media
 - (4) Selective media
- (B) Write a note on Nutritional categories of bacteria with examples. 6
2. (A) Define with examples : 9
 - (1) Acidophiles
 - (2) Barophilic
 - (3) Halophiles
 - (4) Psychoduric
 - (5) Microaerophiles.
- (B) Explain any three methods of cultivation of anaerobes. 5
- OR**
- (A) Discuss bacterial growth curve in a batch culture. Compare it with Diauxic growth. 9
- (B) Define pure culture and give its significance. What is serial dilution ? 5

3. (A) Discuss in detail the causative agent, transmission, pathogenesis, symptoms, and treatment of AIDS. **9**
- (B) Discuss the causative agent, mode of transmission and vaccine of Tuberculosis. **5**
- OR**
- (A) Write a note on Source, mode of action, uses and limitations of : **8**
- (1) Tetracycline
- (2) Chloramphenicol
- (B) List the ideal properties of a Chemotherapeutic agent. **6**
4. (A) Discuss the industrial production of : Penicillin **7**
- (B) Discuss the industrial production of : Lysine **7**
- OR**
- (A) Explain the design of a Bioreactor with a labeled diagram. List the functions of a Bioreactor. **8**
- (B) Define Batch, Fed batch and Continuous fermentation. **6**
5. Attempt any **SEVEN** questions : **14**
- (1) List any two applications of Nucleopore filters. Give full form of HEPA.
- (2) What is the mode of action of chlorine compounds and gamma rays ?
- (3) Define media. Give one example liquid media and its use.
- (4) Define TDP and TDT.
- (5) What is lyophilization and give any one advantage of it.
- (6) Name the growth phases :
- (a) Where mutants are formed.
- (b) Where secondary metabolites are produced by the organisms.
- (7) Define chemotherapeutic Index and its significance.
- (8) Give any two uses of antibiotics other than treatment of diseases.
- (9) What is the mode of action of Sulpha drug ?
- (10) What are HOPS ? Give any one reason for using HOPS in Beer fermentation.
- (11) What is malting and mashing ?
- (12) Name the organisms used in Vinegar production. Give one property of the strain required in vinegar production.
-