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1104E133

Candidate's Seat No : _____

B.Sc. Sem.-6 Examination

CC-308

Biochemistry

April-2025

Time : 2-30 Hours]

[Max. Marks : 70

Q.1 a. Define the terms sterilization, disinfection, microbiostasis, antiseptic, sanitization, pasteurization, and tyndallisation . 07

b Briefly explain the mode of action, uses, and limitations of chlorine as a disinfectant. 7

OR

Q.1 a. Describe the phenol coefficient test and its importance in measuring the effectiveness of disinfectants. 7

b. Describe the mode of action, applications, and limitations of beta-propiolactone as a microbial gas disinfectant. 7

Q.2 a. Discuss serial dilution and standard plate count methods used for measuring bacterial growth. 7

b Discuss the effect of temperature on bacterial growth and classify bacteria based on temperature requirements with examples. 7

OR

Q.2. a. Describe the different phases of the bacterial growth curve with a well-labeled diagram. 7

b Discuss any two methods of bacterial culture preservation, with advantages and disadvantages. 7

Q.3 Write a detailed account of tuberculosis, mentioning the causative agent, mode of transmission, pathogenesis, and symptoms 14

OR

(P.T.O)

Q.3 a. Describe the mode of action of Chloramphenicol, and discuss its advantages and disadvantages. 9

b What is chemotherapeutic index? How is it calculated and what does it signify? 5

Q.4 a. Draw a labeled diagram of a bioreactor and explain the functions of each part. 8

B Compare and contrast batch, continuous, and fed-batch cultures. 6

OR

Q.4. a. Explain the production of vinegar by fermentation, mentioning the microbial strain used and the type of reactor employed. 7

b. Describe the complete industrial production of Penicillin 7

Q.5 Attempt Any Seven 14

1. What is empirical media?
 2. Name one advantage of using a hot air oven for sterilization
 3. How do U.V. rays kill microorganisms?
 4. Which filter type is best suited for sterilizing heat-sensitive solutions?
 5. What are barophilic organisms?
 6. Define pure culture .Name one method for pure culture isolation.
 7. What is the purpose of lyophilization in bacterial preservation?
 8. What is the mode of action of tetracycline?
 9. Name two other use of antibiotics apart from treating infections.
 10. Name two general properties of antimicrobial agents.
 11. What is the function of a sparger in a bioreactor?
 12. Name the microorganism used in lysine production.
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