



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
 (AUTONOMOUS) (Grant-in-Aid)
 Affiliated to Sardar Patel University
 VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester-III) External Examination –October-2025
Subject Code:USO3MAMIC01 Subject:MICROBIOLOGY

MICROBIAL PHYSIOLOGY

Date: 6-10-2025, (MONDAY)

Time: 2:00 PM to 04:30 PM (2.5 hrs)

Total marks: 50

NOTE: Figures on the right indicate marks.

Q.1 Write the most appropriate answer from the following multiple-choice questions. [10]

1. The time required for the population to double is referred as _____.
 (a) Generation time. (b) Growth rate.
 (c) Generation. (d) Cell number.
2. Exhaustion of nutrients and production of toxic products during growth is observed in _____ phase.
 (a) Lag (b) Stationary
 (c) decline (d) log
3. _____ is one where all cells in the same physiology and cell division, There fore they divide at a time.
 (a) continuous culture (b) Diauxic growth
 (c) synchronous growth (d) Fragmentation
4. _____ methods are used for measurement of total cell count.
 (a) Direct Microscopic Count technique (b) Petroff-Hausser counting chamber technique
 (c) Electronic cell counter technique (d) All of these
5. Which of the following method of sterilization?
 (a) Steam under pressure (b) Boiling water
 (c) pasteurization (d) All of the above
6. X-ray is the examples of _____ radiation?
 (a) Non ionizing (b) ionizing
 (c) Both (a) and (b) (d) None of the above



7. Which of the following concentration of Alcohol is having bacteriostatic effect?
 (a) 60% (b) 80%
 (c) 95% (d) 70%
8. Quaternary ammonium compounds are _____.
 (a) Cationic detergents (b) Tri phenyl methyl dyes
 (c) Anionic detergents (d) Non-ionic detergents
9. The most common method of reproduction of bacteria is _____.
 (a) Plasmogamy. (b) Fragmentation.
 (c) Binary fission. (d) Fission.
10. Temperature of _____ °C is attained at 15lb/in² in an autoclave.
 (a) 120.5 (b) 121.5
 (c) 122.5 (d) 120
- Q-2 Enlist and explain different phases of typical bacterial growth curve. [10]
 OR
- Q-2 Discuss the different methods used for uptake and transport of nutrients in bacteria. [10]
- Q-3 Enlist and explain different methods used for enumeration of bacteria by total cell count. [10]
 OR
- Q-3 What is continuous culture? Write in detail on continuous culture. [10]
- Q-4 Write notes on:
 (A) Tyndallization [05]
 (B) Filtration [05]
 OR
- Q-4 Write In detail on the use of high temperature as an antimicrobial agents. [10]
- Q-5 Write notes on:
 (A) Ideal characteristics of antimicrobial agents [05]
 (B) Phenol co-efficient method [05]
 OR
- Q-5 Write on gaseous agents as antimicrobial agents. [10]

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