



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 3) Internal Examination - 2025
US03MAMIC01:Microbial Physiology

Date: 23/09/2025

Time: 02:45 p.m.to 04:15 p.m.

Total marks :30

Q-1 Attempt all following multiple-choice question.

(06)

1. Bacteria normally reproduce by:
(a) Budding (b) Fragmentation (c) Binary fission (d) None of them.
2. The time required for population to double is called:
(a) Generation time (b) Growth time (c) Log time (d) None of them.
- 3 The enzyme required for utilization of lactose is:
(a) Catalase (b) Alpha galactosidase (c) Beta galactosidase (d) All of them.
- 4.Which of the following physical condition influences antimicrobial action?
(a) Environment (b) Kinds of microorganisms (c) Physiological state of cells (d) All of them.
- 5.Time in minutes to reduce the population by 90 percent is called:
(a) Thermal death time (b) Decimal reduction time (c) Lag time (d) None of them.
6. The agent that kills bacteria is called:
(a) Bactericidal (b) Bacteriostatic (c) Germicidal (d) All of them.

Q-2.Describe normal growth curve of bacteria.

(06)

OR

Q-2.Describe various methods of transport of nutrients in bacteria.

(06)

Q-3. Write in detail on Diauxic growth.

(06)

OR

Q-3. Explain in detail on synchronous growth.

(06)

Q-4. Describe various methods of high temperature for destruction of microorganisms.

(06)

OR

Q-4.Describe the use of radiation to control the growth of microorganisms.

(06)

Q-5 .Describe characteristics of an ideal antimicrobial chemical agent.

(06)

OR

Q-5. Describe mode of action and practical application of alcohol and dyes as antimicrobial agents.

(06)





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Quiz

Q.1 Fill in the blank

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- (1) Protozoa ingest food particles by process called ----- (Osmolysis / Phagocytosis)
- (2) Lag phase is also known as ----- (adaptation/ Exponential)
- (3) ----- method is used to obtain continuous culture. (Chemostat/cyclic temp. shift)
- (4) ----- mehod is normally used for cell count (Microkjeldahl/ Electronic count)
- (5) ----- ara much susceptible to physical agents.(Vegetative cells/ Spores)
- (6) Autoclave is normally operated at a temperature of ----- (123° C/ 121° C)
- (7) ----- is the example of gaseous agent to cotro organisms (Hydrgen/ Ethylene oxide)
- (8) The process of destroying all forms of microbial life is called----- (Sterilization/ Sanitization)

Q.2. State True or False

07

- (1) Death phase is also known as decline phase.
- (2) The generation time of E. coli is 5 hours.
- (3) The process of diauxic growth was first observed by Robert Koch.
- (4) Increase in cell number and cell mass leads to increase in overall cellular activity.
- (5) Sterilization by radiation is also called cold sterilization.
- (6) Tyndallization is also called fractional sterilization.
- (7) A substance that opposes sepsis is called disinfectant.

