



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 5th Internal Examination - 2025

COURSE CODE: US05MABOT01

COURSE TITLE: Microbiology and Phycology

Date: 22/09/25

Day: Monday

Time: 10:45 to 11:45 a.m

Total marks :30

Q-1 Choose the most appropriate answer.

(6 Marks)

1. Who is known as the father of microbiology?
 - a) Robert Koch
 - b) Antonie van Leeuwenhoek
 - c) Louis Pasteur
 - d) Joseph Lister
2. Which staining technique is used to visualize Mycobacterium tuberculosis?
 - a) Gram staining
 - b) Acid-fast staining
 - c) Endospore staining
 - d) Negative staining
3. Which bacterial group lacks a cell wall?
 - a) Cyanobacteria
 - b) Mycoplasma
 - c) Bacillus
 - d) Clostridium
4. Heterocysts in cyanobacteria are specialized for:
 - a) Photosynthesis
 - b) Nitrogen fixation
 - c) Reproduction
 - d) Spore formation
5. The thick-walled resting spore in cyanobacteria is called:
 - a) Heterocyst
 - b) Akinete
 - c) Hormogonium
 - d) Arthrospore
6. Agar and carrageenan are obtained from:
 - a) Chlorophyta
 - b) Phaeophyceae
 - c) Rhodophyta
 - d) Cyanophyta



Q.2 Write common Sterilization methods used in microbiology. (6Marks)

OR

Q-2 Differentiate between selective and differential culture media. (6Marks)

Q-3 Draw and labelled diagram of TMV and write an account of its multiplication. (6Marks)

OR

Q-3 Distinguish between the Lysogenic and Lytic phages. (6Marks)

Q-4 Enumerate the Economic importance of Cyanophyceae (6Marks)

OR

Q-4 Explain the range of thallus organization in Cyanophyta with suitable examples. (6Marks)

Q-5 Describe pigments and Flagella structure in algae (6Marks)

OR

Q-5 Write about any two Indian algologists and their contributions (6Marks)



BLOCK NO _____ ROOM NO _____ Supervisor signature _____ Marks _____



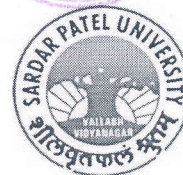
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Bachelor of Science Semester 5th Internal Examination QUIZ- 2025

COURSE CODE: US05MABOT01 COURSE TITLE: Microbiology and Phycology

Date: 22/09/25 Day: Monday Time: 20 Minutes Total marks :15

Q-1 Fill in the blanks with appropriate answer given in the bracket. (08)

1. _____ proposed the germ theory of disease and performed the swan-neck flask experiment. (Louis Pasteur/ Antonie van Leeuwenhoek)
2. The bacterial cell wall is mainly composed of _____ (Peptidoglycan/Cellulose)
3. Bacteria that retain crystal violet in Gram staining are called _____. (Gram-negative bacteria /Gram-positive bacteria)
4. _____ are infectious protein particles that lack nucleic acids. (Prions/ Virion)
5. Transfer of bacterial DNA by a bacteriophage is called _____. (Transduction/Fisson)
6. Cyanobacteria store food in the form of _____. Cyanophyceae (Starch/Cellulose)
7. The branch of biology dealing with the study of algae is called _____. (Phycology/ Microbiology)
8. Agar and carrageenan are obtained from _____ algae. (Red / Green)

Q-2 Whether the following statement is true or false. Write your answer in the box (07)

- | | |
|--|-----|
| 1. Peptidoglycan is absent in fungal cell walls. | { } |
| 2. A pure culture contains a mixture of different microbes. | { } |
| 3. Viroids are infectious RNA molecules without a protein coat. | { } |
| 4. Archaeobacteria can survive in extreme environments. | { } |
| 5. Cyanobacteria perform oxygenic photosynthesis. | { } |
| 6. Algal blooms caused by cyanobacteria always increase water quality. | { } |
| 7. The cell wall of diatoms is rich in silica. | { } |