

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 2) External Examination - 2025
MICROBIOLOGY US02MAMIC01
FUNDAMENTALS OF MICROBIOLOGY

Date: 08-04-2025 (Tuesday)

Time: 02:00 PM to 4:30 PM (2.5 hrs)

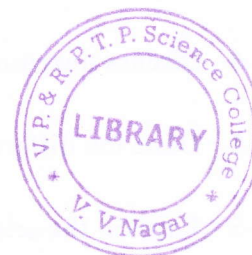
Total marks:50

Note : All questions are compulsory.

Q1) Attempt the following multiple choice questions.

(10)

- 1) These organisms utilize inorganic compounds as electron donor.
 - a) Autotrophs
 - b) Lithotrophs
 - c) Heterotrophs
 - d) Phototroph
- 2) Which of the following is an example of obligate parasite?
 - a) Chlamydia
 - b) Treponema
 - c) Rickettsia
 - d) All of the above
- 3) *Chromatium okenii* is an example of _____.
 - a) Autotroph
 - b) Lithotroph
 - c) Heterotroph
 - d) All of these
- 4) Amino acids in protein are linked with _____ bond.
 - a) Ester
 - b) Ether
 - c) Amide
 - d) Glycosidic
- 5) Substrate specificity of enzyme is its ability to _____.
 - a) Bind to a specific cofactor
 - b) Bind to a specific substrate
 - c) Catalyze multiple reactions
 - d) Bind to a wide range of substrate
- 6) Type strain used for identification of bacteria is a representative of _____.
 - a) Division
 - b) Genus
 - c) Order
 - d) Species
- 7) In taxonomy, a class is composed of _____.
 - a) Division
 - b) Species
 - c) Genus
 - d) Order
- 8) _____ bacteria shows pellicle growth on liquid media.
 - a) Strict aerobes
 - b) Anaerobes
 - c) Facultative Anaerobes
 - d) All of the above
- 9) Selection of *Treponema* species for isolation and cultivation can be done by taking advantage of _____.
 - a) Small cell size and dilute medium
 - b) Dilute medium and Motility
 - c) Motility
 - d) Small cell diameter and Motility
- 10) This is a cryoprotective agent used for preservation of pure culture.
 - a) Agar agar powder
 - b) Glycerol
 - c) Peptone
 - d) Ice





Q-2 Describe the structure of DNA. (10)

OR

Q-2 Discuss nomenclature and classification of enzymes. (10)

Q-3 Discuss Genetic methods of classification of bacteria. (10)

OR

Q-3 Describe various criteria used for classification of bacteria. (10)

Q-4 Describe various types of media based on application and function. (10)

OR

Q-4 Discuss nutritional types of bacteria in detail. (10)

Q-5 Describe different methods of preservation of bacteria in detail. (10)

OR

Q-5 Explain the selective methods used for isolation of pure culture. (10)