

SEAT No. _____

No. of Printed Pages : 2

[15/A-19]

SARDAR PATEL UNIVERSITY
B.SC. EXAMINATION
MICROBIOLOGY SEMESTER – 4
SUBJECT CODE: US04CMIC02

SUBJECT TITLE: APPLIED MICROBIOLOGY

Date: 11/04/2018

Time: 10:00 a.m. to 1:00 p.m.

Day: Wednesday

Total marks: 70

N.B: Figures on the right indicate marks.

Q.1 Multiple Choice Questions.(01-Mark each)

10

- 1 In MBRT, the rate of shift in O/R potential can be detected by the use of _____ dye.
(a) Methylene blue (b) Resazurin
(c) (a) and (b) both (d) None of these
- 2 _____ may be the causative agent of Mastitis in cattle.
(a) *Streptococcus lactis* (b) *Streptococcus cremoris*
(c) *Staphylococcus aureus* (d) None of the above.
- 3 _____ yeast ferment lactose with acid and gas production.
(a) *Saccharomyces cerevisiae* (b) *Torula lactis*
(c) *Torula cremoris* (d) (b) and (c) both
- 4 _____ is the causative agent of Q fever.
(a) *Salmonella typhi* (b) *Coxiella burnetii*
(c) *Mycobacterium tuberculosis* (d) *Staphylococcus aureus*
- 5 _____ is the major contaminant present on the skin of freshly dressed poultry.
(a) *Enterococci* (b) *Pseudomonas*
(c) *Enterobacter* (d) *Cl. botulinum*
- 6 Except _____, all are bacterial disease transmitted through water.
(a) Poliomyelitis (b) Typhoid
(c) Tuberculosis (d) Brucellosis
- 7 _____ gives Indole production test and Methyl Red test positive.
(a) *E. coli* (b) *Enterobacter aerogenes*
(c) *Proteus vulgaris* (d) *Staphylococcus aureus*
- 8 _____ is found in intestinal tract of human beings and designated as coliform.
(a) *Enterobacter aerogenes* (b) *Proteus vulgaris*
(c) *Staphylococcus aureus* (d) *E. coli*
- 9 Phosphates are released from organic compounds such as _____ by microbial degradation.
(a) citric acid (b) nucleic acid
(c) acetic acid (d) fumeric acid
- 10 _____ bacteria use H₂S as an electron donor to reduce CO₂
(a) *Chromatium* (b) *Chlorobium*
(c) (a) & (b) (d) none of these

①

[P.T.O.]

Q.2 Attempt the following Short Questions. (any Ten)

20

- 1 Which organisms are present as the starter culture to make butter?
- 2 Give the names of bacterial genera causing off flavors in milk.
- 3 Enlist diseases that have been transmitted by milk.
- 4 List four chemicals used as food preservatives?
- 5 Describe very briefly canning of food for preservation.
- 6 What are the advantages of sterilization for food preservation?
- 7 Why is *E. coli* considered as an indicator organism of water pollution?
- 8 Write the four classes of natural waters.
- 9 Explain: False positive Presumptive test.
- 10 Explain protozoal and viral population in soil.
- 11 Explain the process of CO₂ fixation by bacteria.
- 12 What is rhizosphere?

Attempt the following long questions

- Q.3** a Describe the sources of microorganism in milk and the precautions to minimize their entry into milk. **06**
b Write a note on the Phosphatase test. **04**
- OR**
- Q.3** a Explain in detail on microbial examination of milk. **06**
b Write a note on pasteurization of milk **04**
- Q.4** a Describe microbial spoilage of food. **06**
b How does dehydration helps in food preservation? **04**
- OR**
- Q.4** a Describe low temperature and radiation methods for food preservation. **06**
b Discuss microbial flora of fresh foods like fruits, vegetables and eggs. **04**
- Q.5** a How does filtration method work for water purification? **06**
b Write in short on marine microbiology. **04**
- OR**
- Q.5** a Explain and draw Inhoff tank **06**
b Explain oxidation ponds. **04**
- Q.6** Write an exhaustive note on microbial interactions in soil with suitable examples. **10**
- OR**
- Q.6** Explain the role of microorganism in Nitrogen cycle. **10**
