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[23/A-47]

SARDAR PATEL UNIVERSITY
B.Sc. EXAMINATION - SEMESTER-4
MICROBIOLOGY – US04CMIC02
Applied Microbiology

Date: 7/04/2016
Day : Thursday

Time: 10:30 am to 1:30 pm
Total marks: 70

N.B: Figures on the right indicate marks.

Q.1 Select the correct answer for each M.C.Q.**(01 – Mark each)** **10**

1 Pasteurization efficiency can be checked by_____ test.
(a) Caseinase (b) Lactase
(c) Phosphatase (d) Amylase

2 _____dye undergoes series of color changes during reduction test.
(a) Methylene blue (b) Basic fuchsin
(c) Melachite green (d) Resazurin

3 In the HTST method of pasteurization, milk is heated to_____.
(a) 145^0F for 30 minutes (b) 161^0F for 15 seconds
(C) 143^0F for 30 minutes (d) 161^0F for 15 minutes

4 When protein foods are degraded by proteolytic microorganisms, the process is known as _____.
(a) Purification (b) Pasteurization
(C) Putrefaction (d) None of these

5 The pH of the fruits restricts the growth of_____.
(a) Bacteria (b) Fungi
(C) Plant (d) a & b both

6 _____ gives Indole & Methyle Red test positive.
(a) *Enterobacter aerogenes* (b) *Proteus vulgaris*
(C) *Escherichia coli* (d) All of these

7 In the depth of the sea, microorganisms live at tremendous hydrostatic pressure up to_____ atmosphere
(a) 100 (b) 100000
(C) 10 (d) 1000

8 _____ is the simplest anaerobic treatment used extensively in rural area that lack sewage system.
(a) Oxidation ponds (b) Activated sludge
(C) Septic tank (d) Trickling filter

9 In deamination reaction one of the end product is always_____
(a) SO_2 (b) NH_3
(C) NO_2 (d) PO_2

10 The key role is played in the transformation of rock to soil by_____
(a) *Cyanobacteria* (b) *Nocardia*
(C) None of these (d) *Rhizobia*

Q.2 Give short answers to the following questions. **(02 - marks each) (Any Ten)** 20

1 Define : Pasteurization

2 Classify milk on the basis of decolourization in MBRT test.

3 Enlist diseases of human origin that can be transmitted by milk.

4 What are the advantages of sterilization as food preservation?

5 Which is the most important organism to be eliminated in canned foods? Why?

6 Write principles of food preservation.

7 Draw a neat and labeled diagram of septic tank.

8 Explain 'coliform' Give two names of coliform bacteria.

9 Write the classes of natural waters.

10 Explain : Rhizosphere.

11 What is ammonification? Give one example with reaction.

12 Explain CO_2 fixation by bacteria with its reaction.

Q.3 (a) Write short note on butter. 06
(b) Describe microorganisms found in milk on the basis of temperature response. 04

OR

Q.3 (a) Write short note on cheese. 06
(b) Write SPC method for microbial examination of milk. 04

Q.4 (a) Write a note on microbial spoilage of food. 06
(b) Explain Microscopic technique for the microbial examination of food. 04

OR

Q.4 (a) Write about use of high temperatures for food preservation. 06
(b) Write a note on dehydration for food preservation. 04

Q.5 (a) Write a note on Marine Microbiology. 05
(b) Write on disinfection methods for water purification. 05

OR

Q.5 (a) Explain : Activated sludge process. 05
(b) Write a note on trickling filter. 05

Q.6 Write an exhaustive note on microorganisms present in soil. 10

OR

Q.6 Describe in detail microbial interactions in soil. 10

X=X=X