

[63/A-19]

Seat No : _____

No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY

B. Sc. Examination Semester- III

Microbiology – US03CMIC22

Microbial Physiology

Date: 28 / 11 / 2019

Time: 02:00 P.M. to 05:00 P.M.

Day: Thursday

Total marks: 70

N.B: Figures on the right indicate marks.

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

10

- 1 _____ medium can be used to differentiate growth of *E.coli* & *Enterobacter aerogenes*.
(a) MacConkey's agar (b) EMB agar
(c) WB agar (d) N agar
- 2 In single cell isolation _____ device is used.
(a) Micromanipulator (b) Microtome
(c) Micrometer (d) None of the above
- 3 Microorganisms having optimum temperature of growth above 50°C are called _____.
(a) Psychrophiles (b) Mesophiles
(c) Thermophiles (d) Pterophiles
- 4 Which of the following can be used to measure the growth of bacteria?
(a) Cell count (b) Cell mass
(c) Cell activity (d) All of the above
- 5 In the formula $\log N = \log N_0 + n \log 2$, n represents _____.
(a) Number of generation (b) Generation time
(c) Generation type (d) Growth rate
- 6 The term death is defined as the _____.
(a) Irreversible loss in the ability to reproduce (b) Reversible loss in the ability to reproduce
(c) Irreversible loss in the ability to grow in size (d) Reversible loss in the ability to grow in size
- 7 Rate of death of bacteria is _____.
(a) Arithmetical (b) Logarithmic
(c) Tangential (d) None of the above
- 8 Desiccation results in microbial control by _____.
(a) Damaging cell-wall (b) Inhibiting protein synthesis
(c) Damaging cell membrane (d) Cessation of metabolic activity
- 9 Which of the following is an example of a gaseous antimicrobial agent?
(a) Carbon dioxide (b) Ethylene oxide
(c) Glutaraldehyde (d) All of the above
- 10 _____ is/are (an) example(s) of triphenylemethane dye.
(a) Malachite green (b) Brilliant green
(c) Crystal violet (d) All of the above

(1)

(P.T.O)

- Q.2** Give short answers to the following questions. (02 - marks each) (Any Ten) 20
- 1 Giving suitable example, explain briefly on selective media.
 - 2 What is pure culture? Write advantages of streak plate method.
 - 3 What are trace elements? Give suitable examples.
 - 4 Enlist different methods of reproduction in bacteria.
 - 5 Define synchronous growth. Enlist the techniques to obtain it.
 - 6 What is SPC? Write its applications.
 - 7 Write on use of low temperature as an antimicrobial agent.
 - 8 Define plasmolysis & plasmoptysis.
 - 9 Enlist the factors that affect the action of an antimicrobial agent.
 - 10 Write on the mode of action of alcohols.
 - 11 Enlist the applications of Chlorine compounds.
 - 12 How heavy metal ions affect the growth of bacteria?
- Q.3** Write an essay on common ingredients of bacteriological media. 10
- OR**
- Q.3** Write a note on
- A Preservation of culture 05
 - B Nutritional types of bacteria. 05
- Q.4** Write in detail on different stages of bacterial growth in a batch culture. 10
- OR**
- Q.4** Write a note on
- A Diauxic growth 05
 - B Continuous growth 05
- Q.5** Write in detail the role of high temperature in controlling microbial growth. 10
- OR**
- Q.5** What is electromagnetic radiation? Enlist its types, mode of action and applications. 10
- Q.6** Answer the following
- A Define antibiotics. Write on penicillin and streptomycin 05
 - B Write a note on phenolic compounds. 05
- OR**
- Q.6** Write notes on
- A Phenol coefficient 05
 - B Ideal characteristics of antimicrobial agent. 05

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