

SEAT No. \_\_\_\_\_

No. of Printed Pages : 3

[23/A-16]

SARDAR PATEL UNIVERSITY

B.Sc. Semester – IV Examination: April: 2018

Microbiology

(US04CMIC01- General Microbiology)

Time: 03 Hours

Total marks: (70)

Instructions: (1) It is compulsory to attempt all six questions.

(2) Marks of each question are indicated on the right.

Q. 1 Answer the following multiple choice questions: (10)

1. The fetus acquires microorganisms by
  - (a) Surface contact
  - (b) Swallowing
  - (c) Inhaling
  - (d) All
2. Streptokinase is produced by
  - (a)  $\beta$ -hemolytic streptococci
  - (b) *Escherichia coli*
  - (c) *Bacillus subtilis*
  - (d) None of all
3. Evaporation of droplets in warm dry climate results in to formation of
  - (a) Droplet nuclei
  - (b) Spore nuclei
  - (c) Air nuclei
  - (d) Infectious nuclei
4. Which device is used for enumeration of microorganisms in air?
  - (a) Air bubbler
  - (b) Bead bubbler
  - (c) Air device
  - (d) None
5. Which part of fermenter is used to prevent vortex formation during fermentation?
  - (a) Sparger.
  - (b) Impeller
  - (c) Baffles
  - (d) Stirrer gland
6. The time in minutes required to reduce the microbial population by 90% is known as \_\_\_\_
  - (a) Thermal death time
  - (b) Thermal death point
  - (c) Decimal reduction time
  - (d) Generation time
7. The apparatus designed to use steam under regulated pressure is called
  - (a) Autoclave
  - (b) Hot air oven
  - (c) Boiling water bath
  - (d) Steam Arnold
8. \_\_\_\_\_ of the microbial cell causes a cessation of metabolic activity, followed by a decline in the total viable population.
  - (a) Desiccation
  - (b) Freezing
  - (c) Pasteurization
  - (d) Disinfection
9. For practical application a \_\_\_\_\_ concentration of alcohol is generally used.
  - (a) 50 %
  - (b) 70 %
  - (c) 80 %
  - (d) 20 %

[P.T.O.]

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10. Antimicrobial agents used to treat infections are called
- |                             |                  |
|-----------------------------|------------------|
| (a) Chemotherapeutic agents | (b) Disinfectant |
| (c) Antiseptic              | (d) Sanitizer    |

**Q. 2 Answer in short: (Attempt any ten)**

**(20)**

1. Give example of normal flora of large intestine.
2. Give example of active penetration of pathogenic bacteria.
3. Give two examples of exotoxins.
4. List airborne bacterial and viral diseases.
5. Which microorganisms are found as a microbial flora of air?
6. Enlist four characteristics of industrially important microorganisms.
7. Explain: Thermal death time.
8. Use of X-Rays for controlling microbial population is impractical – Justify.
9. Which material is used in preparation of different types of bacteriological filters?
10. List four characteristics of an ideal antimicrobial chemical agent.
11. Define: (a) Disinfectant (b) Bactericide
12. Write on mode of action of alcohols.

**Q. 3 Discuss in detail process of rearing germ free animal.**

**(10)**

**OR**

**Q. 3 (A) Write note on normal flora of skin**

**(06)**

**(B) Discuss mechanism of action of diphtheria toxin**

**(04)**

**Q. 4 Discuss methods used for enumeration of bacteria in air.**

**(10)**

**OR**

**Q. 4 Draw labeled diagram of a fermenter. Discuss its basic functions.**

**(10)**

Q. 5 Discuss the role of high temperature as a microbicidal agent. (10)

OR

Q. 5 Discuss the use of radiations as an antimicrobial agent. (10)

Q. 6 (A) Write a note on Phenol coefficient test. (05)

(B) Write a note on gaseous antimicrobial agents. (05)

OR

Q.6 Discuss practical applications and mode of action of

(A) Heavy metals (05)

(B) Chlorine and chlorine compounds. (05)

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(3)

