

A-25

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY
B.Sc. Microbiology (NC) (2010)
Semester III
US03CMIC02: Fundamentals of Microbiology-II

Date: 22.11.18, Thursday
Time: 2.00 to 5.00 p.m.

Total Marks: 70

Q.1. Attempt the following multiple choice questions. (10)

1. To which category of classification is the suffix *ales* assigned?
(a) species (b) order
(c) genus (d) family
2. In Whittaker's classification in which kingdom are bacteria included?
(a) Protista (b) Monera
(c) Fungi (d) Animalia
3. *Micrococcus luteus* means ----- in Latin.
(a) orange berry (b) yellow berry
(c) violet berry (d) blue berry
4. Which of the following can be used as a solidifying agent?
(a) agar agar (b) silica gel
(c) gelatin (d) all of them
5. Microorganisms which use organic compounds as carbon source are called -----.
(a) chemotrophs (b) autotrophs
(c) heterotrophs (d) none of them
6. Method of isolation of microorganisms includes _____.
(a) streak plate method (b) micromanipulator
(c) serial dilution method (d) all of these
7. Which of the following is a cryoprotective agent?
(a) agar (b) glycerol
(c) gelatin (d) all of them
8. The time required for microbial population to double is called
(a) optimum time (b) generation time
(c) growth time (d) none of them
9. Which of the following is a plant virus?
(a) TMV (b) HIV
(c) HBV (d) influenza virus
10. A phage which infects the bacterial host and causes fragmentation of host DNA is called
(a) virulent phage (b) temperate phage
(c) prophage (d) none of them

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(PTO)

Q.2. Attempt any six out of the following.

(12)

1. What is nomenclature? What are its advantages?
2. Define: (i) classification (ii) taxa
3. Enlist names of divisions included in Bergey's manual.
4. "MacConkey's medium is a selective medium". Justify.
5. What are the different physiological groups of microorganisms based on the response to temperature?
6. Define: (i) continuous culture (ii) synchronous culture
7. Define: (i) prophage (ii) lysogen
8. Give two examples of animal viruses.

Q.3. Enlist major characteristics of microorganisms and explain any two of them for classification in detail.

OR

(08)

Q.3. Write notes on:

- (a) Whittaker's five kingdom concept.
- (b) Haeckel's classification.

(08)

Q.4. Describe genetic relatedness used for classifying bacteria.

OR

(08)

Q.4. Write notes on:

- (a) Numerical taxonomy.
- (b) Nomenclature and identification.

(08)

Q.5. Write a note on nutritional requirements of bacteria.

OR

(08)

Q.5. Describe common ingredients of media.

(08)

Q.6. Write a note on physical conditions required for growth of bacteria.

OR

(08)

Q.6. Write a note on methods of isolating pure culture.

(08)

Q.7. Write a note on normal growth curve of bacteria.

OR

(08)

Q.7. Write a note on measurement of growth.

(08)

Q.8. Write a note on cultivation of animal viruses.

OR

Q.8. Write a note on lytic cycle.