

P P SAVANI UNIVERSITY

First Semester of B.Sc. (Hons.) Agriculture End Semester Examination

July - 2022

SGAG1070-Agriculture Microbiology

21.07.2022, Thursday

Time: 10:00 a.m. to 12:00 p.m.

Maximum Marks: 50

Instruction:

1. Draw a neat and labeled diagram whenever it is required.
2. Start new questions from new page.

Q.1 Multiple choice questions (01 mark each)

(15)

- 1.1 Germ Theory of Fermentation was given by
 - a. John Tyndall
 - b. Aristotal
 - c. Louis Pasteur
 - d. None
- 1.2 Bacteria contain a single polar flagellum
 - a. Monotrichus
 - b. Lophotrichous
 - c. Amphitrichous
 - d. None
- 1.3 Capsule present in
 - a. Fungi
 - b. bacteria
 - c. virus
 - d. nematode
- 1.4 The transfer of genes from one cell to another by a bacteriophage is known as
 - a. Recombination
 - b. Conjugation
 - c. Transduction
 - d. Transformation
- 1.5 Which of the following cell organelles is absent in animal cells and present in a plant cell?
 - a. Cell wall
 - b. Cytoplasm
 - c. Vacuoles
 - d. Mitochondria
- 1.6 Nitrogen is absorbed by plants as ____
 - a. Nitrites
 - b. Ammonium
 - c. Nitrites
 - d. All of the above
- 1.7 The transfer of genes from one cell to another by Pilus is known as ____
 - a. Recombination
 - b. Conjugation
 - c. Transduction
 - d. Transformation
- 1.8 Study of bacteria
 - a. Mycology
 - b. Virology
 - c. Bacteriology
 - d. All of the above
- 1.9 Extra-chromosomal piece of DNA that can replicate independently within a bacterial cell
 - a. Plasmid
 - b. capsule
 - c. pilus
 - d. None

- 1.10 symbiotic nitrogen fixers
- a. Synorhizobium
 - b. Rhizobium
 - c. Azorhizobium
 - d. All of above
- 1.11 Types of bio-fertilizers
- a. Fungal
 - b. Algal
 - c. Bacterial
 - d. All of above
- 1.12 The power house of cell is called
- a. Cell wall
 - b. Mitochondria
 - c. Ribosomes
 - d. Nucleus
- 1.13 Father of microbiology
- a. Antony Van Leeuwenhoek
 - b. Alexander Fleming
 - c. Salman Waksman
 - d. None
- 1.14 Shape of bacteria
- a. Coccus
 - b. Spirillum
 - c. Bacillus
 - d. All of above
- 1.15 Founder of microscope
- a. Robert Koch
 - b. Antony Van Leeuwenhoek
 - c. Louis Pasteur
 - d. None

Q.2 Define/ Explain (Attempt any six- 01 marks each) (06)

- 2.1 recombination
- 2.2 Fermentation
- 2.3 plasmid
- 2.4 capsid
- 2.5 Agricultural microbiology
- 2.6 conjugation
- 2.7 Pili
- 2.8 heterotrophs

Q.3 True/False (01 mark each) (05)

- 3.1 Virus is consisting of both DNA and RNA
- 3.2 Eukaryotic cells have a nucleus enclosed within the nuclear membrane and form large and complex organisms.
- 3.3 Mitochondria are known as "suicidal bags"
- 3.4 Fungi are eukaryotic unicellular organisms
- 3.5 Nitrogen Fixation through nodule formation in leguminous plants is done by rhizobium

Q.4 Short notes (Attempt any six- 02 marks each) (12)

- 4.1 Draw labelled diagrams of plant cell and animal cell
- 4.2 Characteristics of cell, its structure and different cell organelles.
- 4.3 Write a short note on plasmids and give role of plasmid
- 4.4 Explain the steps of the phosphorus cycle
- 4.5 Give advantages and disadvantages of Bio-fertilizers
- 4.6 Enlist the type of biofertilizers with examples
- 4.7 Write a short note on biofertilizer Azolla
- 4.8 Give contribution of four scientists in agricultural microbiology

Q.5 Answer the following questions in detail (Attempt any three- 04 marks each) / (12)

- 5.1 Nitrogen cycle with diagram
- 5.2 Carbon Cycle and its importance with diagram
- 5.3 Explain infection process of virus with labelled diagram
- 5.4 Explain bacterial recombination
- 5.5 Give difference between prokaryotes and eukaryote with examples
