

**Anekant Education Society's
Tuljaram Chaturchand College**

Baramati (Pune)

Autonomous

F.Y.B.Sc.Microbiology (Sem. I : 2019-2020)

Paper I : Introduction To Microbiology

Paper code: MICRO1101

Question Bank

Credit : I - Scope and Applications of Microbiology

Unit 1: Scope of Microbiology:

4 marks Questions:

1. Explain Biotechnology in detail.
2. Explain Food and Dairy microbiology in detail.
3. Explain Agricultural microbiology.
4. Write a note on Nano-Biotechnology.
5. Explain Bioinformatics in detail

6MarksQuestions :

1. Give a brief introduction of Fermentation technology.
2. Give a brief introduction of Genetic engineering
3. Explain Geomicrobiology in detail.
4. Give a brief introduction to Immunology.
5. Give a brief introduction of Medical microbiology.
6. What is mean by Microbial genetics. Explain in detail.

Unit 2: Applications of Microbiology:

1 Marks Questions:

1. Define normal flora of human body.
2. Define probiotics.
3. Give any two examples of normal flora microbes along with their habitat.

4. Define opportunistic infection
5. Give any four examples of probiotic microbes
6. Name the parts of human body that are normally populated with normal flora organisms
7. Define: Biofertilizer.
8. Define: Biopesticide.
9. Define: Nitrogen fixation.
10. Define: Phosphate solubilization.
11. Define: Biocontrol
12. Give examples of biofertilizer microbes, biopesticide microbes.
13. PGPR stands for _____

4 Marks Questions: Short Answer Questions:

1. Explain the term Probiotics in detail.
2. Explain the benefits of consumption of probiotics.
3. Describe the significance of normal flora of human body.
4. Justify: Normal flora of human body has beneficial role.
5. Justify: Normal flora of human body is not always beneficial.
6. Write the characters of probiotic bacteria.

6 Marks Questions:

1. Explain the concept of opportunistic infections with suitable example.
2. Write short note on: Biofertilizer.
3. Write short note on: Biopesticide.
4. Write short note on: Biological control.
5. Explain nitrogen fixation and phosphate solubilization.

12 Marks Questions:

1. Write a note on *Bacillus thuringiensis* as biocontrol agent.
2. Write a note on phosphate solubilizers.
3. Write a note on nitrogen fixers.

Unit 3: Morphological and differentiating characters of microorganisms **Questions:**

1 Marks Question:

1. Halophiles are _____; Methanogens are _____; Thermoacidophiles are _____
2. What are mycoplasmas?
3. Write any two disease caused by *Rickettsia*.

4. What are fungi?
5. What is the difference between yeasts and molds?
6. What are the methods of asexual reproduction in fungi?
7. Name the spores produced by fungi as a result of sexual reproduction
8. Write any four examples of fungi.
9. Define viruses.
10. Write any four examples of animal viruses.
11. State true or false: Viruses contain either RNA or DNA in their capsid
12. What are bacteriophages?
13. Write any four examples of algae.
14. Diatoms are _____ algae.
 - a) Unicellular b) Multicellular c) Acellular d) None.
15. Prions are consists of _____.
 - a) amino acids b) nucleotides c) fatty acids d) none.
16. What are viroids?
17. Write any four examples of protozoa.
18. Match the following:

Cholera	Virus
Malaria	Bacteria
Polio	Fungi
Aspergillosis	Protozoa
19. Give the clinical significance of prions.
20. ICTV stands for _____.
21. What are the locomotory organs present in protozoa?
22. Bergey's manuals are useful for the classification of _____.
 - a) bacteria b) fungi c) protozoa d) algae.

4 Marks Questions : Short Notes:

1. Describe the general characters of algae.
2. Diagrammatically represent the structure of prokaryotic and eukaryotic cell.
3. Write any two differences between eubacteria and archaebacteria.
4. Describe the general characters of bacteria.
5. Differentiate between prokaryotes and eukaryotes
6. What is the difference between Gram-positive and Gram-negative bacteria?
7. Write the peculiar characteristics of Rickettsia.
8. What are prions? Describe their general characters.
9. Write a short note on importance of fungi.
10. Diagrammatically illustrate the structure of virus.
11. Write the general characters of viruses.
12. Explain the general classification of protozoa.
13. Describe the general characters of protozoa.
14. Write a short note on clinical significance of protozoa.

15. Write the importance of algae.
16. What is the difference between Bergey's manual of determinative bacteriology and Bergey's manual of systematic bacteriology.
17. Write a short note on ICTV classification of viruses.
18. Describe Bergey's system of classification of bacteria.

Credit II – History of Microbiology

1 Mark Questions:

1. Match the following

Micrographia	Francisco Redi
Aminalculus	Louis Pasteur
Three jar experiment	Robert Hooke
S-necked flask	Antony van Leeuwenhoek

2. What is abiogenesis? Who proposed this theory?
3. What was Aristotle's notion about abiogenesis?
4. Swan necked flask experiment was designed by _____.
5. 'Three jar experiment' was performed by _____ to disprove the theory of spontaneous generation.
6. Golden era of Microbiology is considered from _____. (1854-1914)
7. Who discovered cells?
8. Enlist the discoveries by Nobel Laureates during 20th and 21st century.
9. State true or false: Koch's postulates are not applicable to viruses.
10. Who introduced the process of aseptic techniques?
11. Match the following:

Salvarsan	Gerhard Domagk
Sulfonamide	Alexander Fleming
Penicillin	Edward Jenner
Vaccination	Paul Ehrlich

12. Match the following:

<u>Nobel Laureates</u>	<u>Discovery</u>
Elie Metchnikoff	Genetic code
Porter and Edelman	Genetics of <i>Neurospora</i>
Kohler and Milstein	Hybridoma technology
Beadle and Tatum	Structure of DNA
Watson and Crick	Structure of antibody
Nirenberg, Matthaei and Khurana	Phagocytosis

4 Mark Questions: Short Answer Questions:

1. Write Robert Hooke's contribution in the discovery of microscope.
2. Write Antony van Leeuwenhoek's contribution in the discovery of microscope.

3. Explain Redi's three jar experiment.
4. Write a short note on the contribution of Joseph Lister?
5. State Riber's postulates.
6. State Koch's postulates.

Long Answer Questions:

1. State the theory of spontaneous generation. Describe the experiments performed by Louis Pasteur and Francisco Redi to disprove this theory.
2. Describe the experiment by John Tyndall to disprove the theory of spontaneous generation.
3. Describe the contributions of Louis Pasteur in Microbiology.
4. State germ theory of disease. Describe the contribution of Robert Koch.
5. Describe various developments with reference to germ theory of disease.
6. Describe various developments in chemotherapy.
7. Write a short note on surgical antisepsis.
8. Describe Louis Pasteur's chicken cholera experiment.
9. Describe the developments in chemotherapy with respect to chemotherapy.