

GOVERNMENT COLLEGE AUTONOMOUS, RAJAMAHENDRAVARAM

Department of Microbiology

Question Bank for I B.Sc. Botany Honours (Microbiology)

II Semester, Minor C 3 (Introduction to Microbiology)

Time : 3Hrs

Max Marks : 50

Essay questions

Answer all the following questions, Draw labelled diagrams wherever necessary

| UNIT | Q.No. | Questions | Marks |
|------|-------|---|-------|
| I | 1. | a) Write notes on Charak Samhita b) Contribution of Edward Jenner | 4+4=8 |
| | 2. | a) Contribution of Ignaz Philipp Semmelweis b) Major contribution of Louis Pasteur | 4+4=8 |
| | 3. | a) Contribution of Robert Koch b) Contribution of Joseph Lister | 4+4=8 |
| II | 1. | Explain Whittaker's five kingdom classification | 8 |
| | 2. | Discuss the basic and applied branches of Microbiology | 8 |
| | 3. | Distinguishing features of eukaryotic and prokaryotic cell | 8 |
| III | 1. | Explain General characteristics of Bacteria | 8 |
| | 2. | Distinguishing characters of Archaeobacteria & Eubacteria | 8 |
| | 3. | General characteristics of viruses | 8 |
| IV | 1. | Write a note on Fungi | 8 |
| | 2. | Write a note Algae | 8 |
| | 3. | Write a note on Protozoa | 8 |
| V | 1. | a) Describe the inoculation methods. b) Nutrient broth & Nutrient agar. | 4+4=8 |
| | 2. | a) Colony characteristics of bacteria. b) Simple staining. | 4+4=8 |
| | 3. | a) Explain various pure culture techniques. b) Wet mount. | 4+4=8 |

Section -B
OBJECTIVE
(10x1=10)

UNIT-1

1. Anton von Leeuwenhoek is credited with the discovery of the first compound microscope. **(False)**
2. Charak Samhita and Sushruta Samhita contain descriptions of aseptic techniques used in ancient Indian medicine. **(True)**
3. The first antibiotic, _____, was discovered by Alexander Fleming in 1928. (*Penicillin*)
4. _____ developed the first vaccine for smallpox using cowpox material. (*Edward Jenner*)
5. The Germ Theory of Disease was proposed and proven by _____. (*Louis Pasteur and Robert Koch*)

UNIT -2

1. Haeckel's three-kingdom classification included Plantae, Animalia, and Monera. **(False)**
2. Carl Woese's three-domain system is based on differences in ribosomal RNA sequences. **(True)**
3. Whittaker's five-kingdom concept includes Monera, Protista, Fungi, Plantae, and _____. (*Animalia*)
4. Carl Woese proposed a three-domain system consisting of Bacteria, Archaea, and _____. (*Eukarya*)
5. Microbiology is the study of microscopic organisms, including bacteria, viruses, fungi, protozoa, and _____. (*Algae*)

UNIT-3

1. Unlike bacteria, archaea do not have a cell wall. **(False)**
2. Viruses are considered living organisms because they can replicate on their own. **(False)**
3. Bacteria exhibit diverse shapes, including cocci (spherical), bacilli (rod-shaped), and _____ (spiral-shaped). (*Spirilla*)
4. Unlike bacteria, archaea have unique membrane lipids composed of _____ linkages instead of ester linkages. (*Ether*)
5. Viruses can have genetic material made of either _____ or _____, but not both. (*DNA, RNA*)

UNIT-4

1. Fungi are autotrophic organisms that perform photosynthesis. **(False)**
2. Algae can be unicellular, colonial, or multicellular in their thallus organization. **(True)**
3. Protozoa excrete waste products mainly through the process of _____. (*Diffusion*)
4. The thread-like structures forming the body of multicellular fungi are called _____. (*Hyphae*)
5. The cyst stage in protozoa helps them survive unfavorable conditions and is known as _____. (*Encystment*)

UNIT-5

1. Solid growth media typically contain agar, while liquid media do not. **(True)**
2. A mixed culture consists of only one type of microorganism. **(False)**
3. The main solidifying agent used in microbiological media is _____. (*Agar*)
4. A culture that contains only one type of microorganism is called a _____. (*Pure culture*)
5. The technique used to observe live, unstained microorganisms under a microscope is called a _____. (*Wet mount*)