THE HNSB. LTD. SCIENCE COLLEGE HIMATNAGAR

MICROBIOLOGY DEPARTMENT

1st ASSIGNMENT SUBMISSION NOTICE

Year: 2022-2023

Date: 10/08/2022

This is to inform all the students of **B.Sc. MICROBIOLOGY sem 1, 3 and 5** that students have to write down assignment in separate supply as shown below. Last date for submission is **24/08/2022**. Students must have to submit assignment before/on due date.

B.Sc. Sem-1

- **MB-101 – INTRODUCTION TO MICROBIOLOGY AND MICROBIAL DIVERSITY.**

1. Write a note on ultra structure of bacteria.
2. Give difference between Prokaryotes and Eukaryotes.
3. What are viroids and Prions?
4. Give the contribution of Louis Pasteur.
5. Write in detail: Golden era of microbiology.
6. Give the answer in detail - Experiments against "The theories of Spontaneous generations".
7. Write principles of bright field and dark field microscopy.
8. Write note on phase contrast microscopy.

B.Sc. Sem-3

- **MB-301 – BIOCHEMISTRY**

1. What are the 4 types of Protein Structure? Explain it.
2. What are lipids? Describe classification of lipids with suitable examples.
3. Explain structure of enzyme.
4. Write note on mechanism of enzymes.
5. Explain lock and key module for enzyme activity.
6. Explain effect of pH and temperature on enzyme activity.

- **MB-302 – CELL BIOLOGY**

1. Explain transfer of small molecules through plasma membrane.
2. Draw a labeled diagram of mitochondria and explain its structure and function.
3. Write a brief note on Mitosis.
4. Write a short note on Nucleus.
5. What is Plasmodeamata?
6. Explain in detail: Structure of Endoplasmic Reticulum and its types.
7. Explain function of Ribosome and Lysosome.

B.Sc. Sem-5

- **MB-501 – MOLECULAR BIOLOGY**
  1. Write a note on Watson and Crick DNA double helix structure.
  2. Explain mechanism of prokaryotic DNA replication.
  3. Explain various models of DNA replication.
  4. Write a note on transcription in Prokaryotes.
  5. Explain excision repair and its types in detail.
  6. Define: Denaturation and Renaturation
  7. What is RNA splicing?

- **MB-502 – MICROBIAL PHYSIOLOGY AND METABOLISM**
  1. Explain measurement of microbial growth.
  2. Write note on batch and continuous culture.
  3. Write a brief note on TCA cycle.
  4. Explain Glycolysis.
  5. Draw a ED pathway.
  6. Write short note on Nitrogen metabolism.
  7. Give differences between anoxygenic and oxygenic photosynthesis.
  8. Explain - Hydrogen oxidation.

- **MB-503 – IMMUNOLOGY**
  1. Write a note on concept of Innate and Adaptive immunity.
  2. Explain structure, types, functions and properties of antibody.
  3. Give answer in detail of primary and secondary immune response.
  4. Write short note on T cells.
  5. Write note on humoral immune response.

- **MB-504 – MICROBIAL DIVERSITY AND BACTERIAL SYSTEMATICS**
  1. Write Different between prokaryotic and eukaryotic microorganisms.
  2. Write short note on Archaebacteria.
  3. Explain in detail Binomial Nomenclature and Whittaker's five kingdom classification.
  4. Explain in detail Gram Positive bacteria.
  5. Write General characteristics of Fungi. Explain mechanism of Prokaryotic DNA replication.

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