

**(101MB24)**

M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Microbiology

VIROLOGY

Time : Three hours

Maximum : 70 marks

Answer ALL questions

UNIT I

1. (a) Describe the ultra structure and characters of viruses.

Or

- (b) Describe the diseases caused by Viroids and the remedial measures.

UNIT II

2. (a) Explain the methods of cultivation of Viruses in embryonated eggs.

Or

- (b) Describe the serological methods for detection of Viruses.

UNIT III

3. (a) Explain the symptoms of diseases caused by the plant Viruses.

Or

- (b) Describe the methods of transmission of plant Viruses, mechanical and biological

UNIT IV

4. (a) Describe the Ultra structure and brief account of life cycle of RNA viruses.

Or

- (b) Describe the Ultra structure and brief account of life cycles of DNA viruses.

UNIT V

5. (a) Describe the general account of Algae and Fungi.

Or

- (b) Describe the preparation and production of Vaccines.

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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Microbiology

**MICROBIAL BIOCHEMISTRY AND ANALYTICAL TECHNIQUES**

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

**UNIT I**

1. (a) Describe the structure and physicochemical properties of monosaccharides.

Or

- (b) Describe the renaturation and denaturation of DNA.

**UNIT II**

2. (a) Explain the properties of amino acids and their uses.

Or

- (b) Explain the three dimensional structure of Proteins.

**UNIT III**

3. (a) Describe the nature and classification of enzymes.

Or

- (b) Explain the methods of purification and characterization of Proteins.

**UNIT IV**

4. (a) Explain the principles and applications of UV Mass Spectrometry.

Or

- (b) Describe the principle and applications of differential centrifugation.

**UNIT V**

5. (a) Describe the principle and applications of Ion exchange chromatography.

Or

- (b) Describe the principle and applications of electrophoresis.

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First Semester

Microbiology

**BACTERIOLOGY**

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

UNIT-I

1. (a) Describe the principles of Bacterial taxonomy and classification of Bacteria.  
Or  
(b) Describe the Ultra structure of typical bacterial cell.

UNIT-II

2. (a) Explain the sterilization methods to control bacterial growth.  
Or  
(b) Write an account on Lyophilization and Cryopreservation.

UNIT-III

3. (a) Describe the methods of Nutrition in Bacteria.  
Or  
(b) Explain the kinetics of growth in Bacteria and its significance.

UNIT-IV

4. (a) Describe the reproduction and significance of Archaeobacteria.  
Or  
(b) Describe the general characters and reproduction in Actinomycetes.

UNIT-V

5. (a) Describe the characters of Agrobacterium and Bacillus clostridium.  
Or  
(b) Explain the characteristic features of Rhizobium and Rickettsia
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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Microbiology

BIOLOGY OF EUKARYOTIC MICROBES

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

UNIT – I

1. (a) Describe the structure and functions of mitochondria.

Or

- (b) Describe the structure and functions of Ribozomes.

UNIT – II

2. (a) Explain the different stages of mitosis with labelled diagrams.

Or

- (b) Write an account on the types and structure of cytoskeletal filaments.

UNIT – III

3. (a) Describe the thallus organisation in Algae.

Or

- (b) Explain the economic importance of algae.

UNIT – IV

4. (a) Describe the modes of nutrition in fungi.

Or

- (b) Explain the edible and poisonous mushrooms.

UNIT – V

5. (a) Describe the morphology, nutrition and reproduction in Trypanosoma.

Or

- (b) Explain the morphology, nutrition and reproduction in giardia.
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