101MB24

M.Sc. Degree Examination, Model QP
MICROBIOLOGY- I SEMESTER
VIROLOGY

Time: 3 hours **Maximum Marks: 70**

Answer ALL Questions **(5x14 = 70 marks)**

UNIT-I

1. a) Give an account on the morphological variations in viruses with suitable diagrams.

OR

b) Explain the diseases caused by viroids and prions.

UNIT-II

2. a) Write an account on the general methods of purification of viruses.

OR

b) Describe the haemagglutination and immunoflourescensse serological methods for detection of viruses.

UNIT-III

3. a) Give an account on mechanical and biological transmission of plant viruses.

OR

b) Explain the chemical and vector based control measures of plant diseases.

UNIT-IV

4. a) Write an account on ultrastructure and life cycle of Influenza virus.

OR

b) Describe the ultrastructure and life cycle of Adenovirus.

UNIT-V

5. a) Give a general account on types and production of vaccines.

OR

b) Write an account on interferons and antiviral drugs.

102MB24

M.Sc. Degree Examination, Model QP
MICROBIOLOGY- I SEMESTER
MICROBIAL BIOCHEMISTRY AND ANALYTICAL TECHNIQUES

Time: 3 hours **Maximum Marks: 70**

Answer ALL Questions **(5x14 = 70 marks)**

UNIT-I

1. a) Give an account on structures and biological importance of structural and storage polysaccharides.

OR

b) Explain the physicochemical properties of fatty acids and glycolipids.

UNIT-II

2. a) What are the essential amino acids. Explain their biological significance.

OR

b) Write an account on types of peptides and peptides of non-protein origin.

UNIT-III

3. a) Give an account on mechanism and factors influencing the enzyme action.

OR

b) Explain the methods of lipid separation and analysis.

UNIT-IV

4. a) Write an account on principle, instrumentation and applications of Mass spectroscopy.

OR

b) Describe the instrumentation of centrifugation and types of centrifuges.

UNIT-V

5. a) Explain the principle and applications of adsorption and gel filtration chromatography.

OR

b) Describe the principle and applications of Immuno and Pulse field gel electrophoresis.

103MB24

M.Sc. Degree Examination, Model QP
MICROBIOLOGY- I SEMESTER
BACTERIOLOGY

Time: 3 hours **Maximum Marks: 70**

Answer ALL Questions **(5x14 = 70 marks)**

UNIT-I

1. a) Give an account on different criteria used in bacterial taxonomy and classification.

OR

b) Explain the ultrastructure of a typical bacterial cell.

UNIT-II

2. a) Write an account on general methods of isolation of bacteria.

OR

b) Describe the different procedures for maintenance and preservation of bacterial cultures.

UNIT-III

3. a) Give an account on continuous culturing and synchronous culturing of bacteria.

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OR

b) Explain in detail about the factors affecting the bacterial growth.

UNIT-IV

4. a) Write an account on general characters and reproduction of Actinomycetes.

OR

b) Describe the general characters and significance of Archaeobacteria.

UNIT-V

5. a) Explain the taxonomic and characteristic features of *Clostridium* and *Escherichia*.

OR

b) Describe the characteristic features of bacterial genera *Nitrosomonas* and *Staphylococcus*.

104MB24

M.Sc. Degree Examination, Model QP
MICROBIOLOGY- I SEMESTER
BIOLOGY OF EUKARYOTIC MICROBES

Time: 3 hours **Maximum Marks: 70**

Answer ALL Questions **(5x14 = 70 marks)**

UNIT-I

1. a) Give an account on ultrastructure of cell wall and cell membrane of Eukaryotic cell.

OR

b) Explain the morphological features and functions of Eukaryotic Ribosomes and Golgi apparatus.

UNIT-II

2. a) Write an account on the role of check points in regulation of eukaryotic cell cycle.

OR

b) Describe the different stages of meiotic cell division.

UNIT-III

3. a) Give an account on algal blooms and toxins.

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OR

b) Explain the classification of algae.

UNIT-IV

4. a) Write an account on agricultural and industrial importance of fungi.

OR

b) Give an account on edible and poisonous mushrooms and cultivation of paddy straw mushrooms.

UNIT-V

5. a) Give an account on locomotion and nutrition in Protozoa.

OR

b) Describe in brief about *Trichomonas* and *Balantidium* genera of protozoa.