

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 9125

M.Sc. MOLECULAR VIROLOGY

FIRST YEAR

(Candidates admitted from 2009-2010 onwards – Paper I)

(Candidates admitted from 2020-2021 onwards – Paper II)

PAPER I & II – BASIC MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY

Q.P. Code : 289125

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Write in detail about Viral genetic modifications.
2. Discuss in detail laboratory diagnosis of viral infection and methods of detecting viral growth in cell culture.

II. Write Short Notes on:

(10x6 = 60)

1. List 3 enveloped and 3 non enveloped virus and the disease caused by them.
2. Lab diagnosis of Covid-19.
3. Interferons.
4. Enumerate the Vectors and viral illness transmitted by them.
5. Significance of P24 antigen assay .
6. Name any five Transfusion transmitted viral infections.
7. Features of Bio Safety level - II cabinet.
8. Bio Medical Waste Management.
9. Plasma Sterilization.
10. List the various chemical disinfections used in the hospital and its applications.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1022]

OCTOBER 2022

Sub. Code: 9125

M.Sc. MOLECULAR VIROLOGY

FIRST YEAR

(Candidates admitted from 2009-2010 onwards – Paper - I)

(Candidates admitted from 2020-2021 onwards – Paper - II)

PAPER I & II – BASIC MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY

Q.P. Code : 289125

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Write in detail invitro tissue culture methods. Include a note a nutritional requirements and cytopathic effects.
2. Classify Hypersensitivity. Discuss in detail the mechanisms of Type I Hypersensitivity with examples.

II. Write Short Notes on:

(10x6 = 60)

1. Electron Microscopy- principle and applications.
2. Methods of Biomedical Waste Disposal.
3. Monoclonal Antibodies.
4. Universal Precautions.
5. Interleukins.
6. Positive and Negative Selection.
7. Lab Diagnosis in Dengue Fever.
8. Minimal Essential Medium.
9. Containment Facilities in Virology Laboratory.
10. Continuous cell lines.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1023]

OCTOBER 2023

Sub. Code: 9125

**M.Sc. MOLECULAR VIROLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER II – BASIC MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY**

Q.P. Code: 289125

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Enumerate Nucleic acid based diagnostic methods. Write in detail about Microarray and Nucleotide sequencing.
2. Write in detail about replication of viruses. Write a note on protein biosynthesis and Post translational modifications.

II. Write Short Notes on:

(10x6 = 60)

1. Types of Electron Microscope.
2. Gas Sterilization.
3. NMR Spectroscopy.
4. Secondary cell culture.
5. Animal Inoculation in microbiology.
6. Pre analytical Variables in microbiology.
7. Categories of Bioterrorist agents.
8. Dulbecco Minimal Essential Medium.
9. Pp65 antigen assay.
10. Primary Lymphoid organs.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1024]

OCTOBER 2024

Sub. Code: 9125

**M.Sc. MOLECULAR VIROLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER II – BASIC MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY**

Q.P. Code: 289125

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Explain the structure and function of immunoglobulins. Add a note on the different classes of immunoglobulins.
2. Describe the structure of Electron Microscope with appropriate schematic representation. Add a note on its applications.

II. Write Short Notes on:

(10x6 = 60)

1. Structure and function of Spleen.
2. Haemagglutination Test.
3. Maintenance and handling of Rabbits.
4. Hyperplasia.
5. Structure of tRNA.
6. Tertiary structure of Proteins.
7. Flow cytometry.
8. Column Chromatography.
9. Structure and function of Thymus.
10. Microarray.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1025]

OCTOBER 2025

Sub. Code: 9125

**M.Sc. MOLECULAR VIROLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER II – BASIC MICROBIOLOGY, VIROLOGY AND IMMUNOLOGY**

Q.P. Code: 289125

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the replications of RNA & DNA viruses with examples.
2. Define Genetic engineering. Describe in detail tools and techniques used in genetic engineering.

II. Write Short Notes on:

(10x6 = 60)

1. Biosafety cabinets in Virology laboratories.
2. Monoclonal antibodies.
3. Type-1 hypersensitivity Reactions.
4. Viral transport medium.
5. Standard precautions to reduce Healthcare associated infections.
6. Membrane filters.
7. Graft vs Host reaction.
8. Signal transduction pathway.
9. Viral inclusion bodies.
10. Plasma sterilization.
