

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

[DM 0124]

JANUARY 2024

Sub. Code :1504

D.M. – VIROLOGY

**PAPER – IV – RECENT ADVANCES, NOVEL DIAGNOSTICS,
ANTI-VIRALS / THERAPEUTICS & VACCINES**

Q.P. Code: 161504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. What are the indications to start anti-retroviral therapy in newly diagnosed patient who is HIV seropositive. What are the treatment options? How is the patient monitored? In what situations will the patients fail to become virologically suppressed? Any contraindications for any class of drugs.
2. List the point-of care and near point-of-care virological (molecular and serological) assays. Discuss the merits and de-merits of such assays citing examples.

II. Write notes on:

(10 x 7 = 70)

1. Emerging and re-merging viral infections.
2. Monoclonal antibodies.
3. Pre-clinical trials for vaccines.
4. Viral high consequence pathogens.
5. DNA based viral vaccines.
6. Antibody avidity assays.
7. Viral hyper-gamma globulins.
8. Viral load estimations.
9. Persistent viral infections.
10. Systemic viral infections.

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

[DM 0225]

FEBRUARY 2025

Sub. Code :1504

D.M. – VIROLOGY

**PAPER – IV RECENT ADVANCES, NOVEL DIAGNOSTICS, ANTI-VIRALS /
THERAPEUTICS & VACCINES**

Q.P. Code: 161504

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. List the various approaches to developing a vaccine for Ebola virus (EBOV). Describe in detail the development of any one vectored vaccine for EBOV. Write a short note on vaccine efficacy against Ebola Virus Disease (EVD).
2. List the advances in genome sequencing of influenza viruses. Describe in detail the principle, methodology, and pros and cons of any one of them. Write a short note on their utility to inform public health measures and global tracking of virus spread for avian influenza viruses.

II. Write notes on:

(10 x 7 = 70)

1. Remdesivir for COVID-19.
2. Newer anti-HIV drugs.
3. Environmental surveillance for viruses.
4. Pathogen Discovery.
5. Pan-coronavirus inhibitors.
6. Antiviral drug resistance in CMV.
7. Mucosal immunization.
8. Advances in the assessment of cellular immunity.
9. The Global Virome Project.
10. Spillover risk from Bat viral reservoirs.
