

KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E01606

Course Code: 24PMMB22

PG Degree - End Semester Examinations, April 2026

Second Semester

M.Sc., MICROBIOLOGY

Medical Virology and Parasitology

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. A virus is made up of _____
K:1 (a) Protein coat and nucleic acid (b) Protein coat and mitochondria
(c) Nucleic acid and cell membrane (d) Nucleic acid, cell wall and cell membrane
- CO:1 2. Which of the following is NOT typically used in the purification of
K:1 viruses?
(a) Chromatography (b) Ultracentrifugation
(c) Precipitation (d) Gram staining
- CO:2 3. The characteristic shape of poxviruses is described as
K:2 (a) Helical (b) Icosahedral
(c) Brick-shaped (d) Bullet-shaped
- CO:2 4. Which of the following is the primary vector for the dengue virus?
K:2 (a) *Anopheles* mosquito (b) *Aedes* mosquito
(c) Ticks (d) *Culex* mosquito
- CO:3 5. The protein shell of a bacteriophage that encloses its genetic
K:2 material is called a
(a) Nucleoid (b) Capsule
(c) Capsid (d) Envelope

- CO:3 6. What is the primary difference between the lytic and lysogenic
K:2 cycles?
(a) The type of virus used (b) The host cell type
(c) The presence of a capsid (d) Whether the host cell is immediately destroyed
- CO:4 7. Amoebic dysentery is caused by
K:2
(a) *Entamoeba histolytica* (b) *Trypanosoma histolytica*
(c) *Entamoeba gingivalis* (d) *Plasmodium vivax*
- CO:4 8. Which of the following parasites is responsible for the cause of
K:2 African sleeping sickness or Gambiense fever?
(a) Trichomonas (b) Trypanosoma
(c) Entamoeba (d) Leishmania
- CO:5 9. Which cells does HIV primarily attack in the human body?
K:1
(a) CD4 T-helper cells (b) B-lymphocytes
(c) Red blood cells (d) Platelets
- CO:5 10. To diagnose Malaria or Filariasis, which sample is most
K:1 appropriate for microscopic examination?
(a) Stool sample (b) Urine sample
(c) Peripheral blood smear (d) Sputum sample

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Identify the infective assay of virus cultivation process.

K:3

(OR)

- (b) Build the embryonated eggs method used in cultivation of viruses.

- CO:2 12. (a) Differentiate DNA and RNA.

K:4

(OR)

- (b) Analyze the pathogenicity of hepatitis viruses.

- CO:3 13. (a) Specify the importance of viral vaccines.

K:4

(OR)

- (b) Examine the structural organization of M13 filamentous phage.

CO:4 14. (a) Identify the laboratory diagnosis of *Entamoeba histolytica*.

K:3 (OR)

(b) Organize the epidemiology and lifecycle of *Trichomonas* sp.

CO:5 15. (a) List out the diagnostic method of *Fasciola hepatica*.

K:4 (OR)

(b) Simplify the cultivation of parasites.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

CO:1 16. (a) Organize the structure and classification of viruses.

K:3 (OR)

(b) Apply the purification and assay of viruses.

CO:2 17. (a) Examine the pathogenesis and laboratory diagnosis of Pox virus.

K:4

(OR)

(b) List out the characteristics of Ebola virus

CO:3 18. (a) Evaluate the importance of serological and molecular methods to diagnosis viral infections.

K:5

(OR)

(b) Explain the lysogenic cycle of bacteriophage.

CO:4 19. (a) Discuss the laboratory diagnosis and treatment for Trypanosoma.

K:6

(OR)

(b) Evaluate the importance of medical parasitology.

CO:5 20. (a) Elaborate on the life cycle of *Ascaris* with illustration.

K:6

(OR)

(b) Discuss the serological and molecular methods to diagnosis of parasitic infections.