

**M. Sc. 4th Semester Examination, 2025**  
**BIO-MEDICAL LABORATORY SCIENCE**  
**AND MANAGEMENT**

*( Diagnostic Microbiology II : Virology &  
Mycology )*

PAPER — BML-404

Full Marks : 50

Time : 2 hours

Answer all questions

*The figures in the right hand margin indicate marks*  
*Candidates are required to give their answers in*  
*their own words as far as practicable*

GROUP— A

Answer any four questions from the following :

2 × 4

1. What is meant by fungomas ?

( Turn Over )

( 2 )

2. What are the important clinical findings in Candidiasis ?
3. How do viruses differ from other intracellular parasites ?
4. Which virus is diagnosed by Pap smear ? Mention the site of replication of Rhinovirus, Respiratory Syncytial Virus (RSV) and influenza virus. 1+1+1
5. Define prion and provirus.
6. Cite two Nucleoside Reverse Transcriptase Inhibitor (NRTI) antiviral drugs.

### GROUP - B

Answer any four questions from the following :

7. Most pathogenic fungi have both saprophytic and parasitic stage. Explain the statement. 4 x 4
8. Write a short note on Gilchrist disease.

9. What is the etiology and common mode of transmission of infectious mononucleosis? Why is the disease called as 'mononucleosis'?  $2 + 2$
10. Differentiate between the latent and productive virus infections. What type of vaccine is used to protect against chicken pox virus infection?  $3 + 1$
11. What are the different approaches to deliver viral genomes into the cytoplasm of host cells? Write the major symptoms of Mumps virus infection.  $3 + 1$
12. Compare between the true and opportunistic fungal infections. What is invasive Aspergillosis?  $3 + 1$

### GROUP - C

Answer any two questions from the following :

13. Elaborate the targets and mechanisms of action of antiviral drugs with schematic  $8 \times 2$

( 4 )

presentation. Define viral structural and non-structural proteins with examples. 6 + 2

14. What are the causative agents and most common modes of transmission of AIDS ? Discuss about the different diagnostics approaches of AIDS. 3 + 5

15. What is meant by fungistatic and fungicidal drugs ? Why the metabolic pathway for the synthesis of ergosterol is the target of most antifungal drugs ? How do the azole class of antifungal drugs interfere the synthesis of ergosterol ? 2 + 2 + 4

16. Draw and label different components of Herpes simplex virus-1 (HSV-1). Describe the pathogenesis of HSV-1 and Rubella virus infection in human. 2 + 6

[ Internal Assessment — 10 Marks ]