

**M.Sc. 4th Semester Examination, 2024**

**BIO-MEDICAL LABORATORY SCIENCE  
AND MANAGEMENT**

(Diagnostic Microbiology II :  
*Virology & Mycology*)

PAPER – BML-404

*Full Marks : 50*

*Time : 2 hours*

*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 are the unique properties of fungal cell wall ?

2. Why is fungi simultaneously considered as parasitic and saprophytic ?
3. What is prion ? What is the major structural differences between cellular prion and disease causing prion ? 1 + 1
4. What are the conditions in patients-predisposing them to opportunistic fungal infections ?
5. What is meant by viral hemorrhagic fever ?
6. Schematically present the Baltimore classification of animal viruses.

### GROUP-B

Answer any **four** questions from the following : 4 × 4

7. Compare between the true and opportunistic fungal infections. Why dermatophytes are zoonotic ? 3 + 1

8. Write a brief note about oral thrush emphasizing on clinical findings and laboratory diagnosis. 4
9. Briefly discuss about the causative agent of talaromycosis along with its macroscopic and microscopic observations. 4
10. Discuss about the WHO classification of dengue infections and grading of severity of dengue hemorrhagic fever. 4
11. After entry into the host, which events between transcription and translation occurs first for positive strand and negative strand RNA viruses? Mention the genome present in norovirus and rotavirus. Describe the transmission of norovirus and rotavirus from infected to uninfected child. 1 + 1 + 2

12. Write the differences between oral polio vaccine and inactivated polio vaccine. What are the symptoms of rabies virus infection? Which treatment is given to a person after being bitten by a rabies infected dog? 2 + 1 + 1

GROUP-C

Answer any two questions from the following : 8 × 2

13. Why do dermatophytes commonly cause cutaneous mycoses, but rarely become invasive? Discuss about different types of dermatophytoses and its causative agents. 2 + 6
14. Why is the progression of HIV infection directly inter-related to viremia and the level of CD4 T cells in blood? What do pre- and post-exposure prophylaxes mean? 6 + 2

15. What are warts ? Name the virus causing warts. Describe the mechanism how certain human papillomavirus (HPV) causes cancer. How HPV infection is detected and the occurrence of diseases caused by HPV infection can be prevented ? 1 + 1 + 3 + 3
16. Describe the entry and replication of influenza virus in the nasal epithelial cell. Why vaccine against influenza virus should be taken each year for the protection against influenza virus infection ? Name the virus responsible for common cold. What are the pathogenesis of respiratory syncytial virus (RSV) infection ? 4 + 1 + 1 + 2

[ Internal Assessment – 10 Marks ]

---