



## BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(MLT)-2022/B.Sc.(MLT)-2023

Course Name – Mycology & Virology

Course Code - BMLTC602

( Semester VI )

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) What components make up a virus?
  - a) A protein shell and nucleic acid
  - b) A protein shell and mitochondria
  - c) Nucleic acid and cell membrane
  - d) Nucleic acid, cell wall, and cell membrane
- (ii) Which of the following is the integrated genetic material of a virus?
  - a) Virus-like-particle (VLP)
  - b) Prion
  - c) Provirus
  - d) Viroid
- (iii) Which of the following is the first step in replication by bacterial phages?
  - a) penetration
  - b) transcription
  - c) assembly and release
  - d) Attachment
- (iv) The virus that causes acquired immune deficiency syndrome (AIDS) parasitizes \_\_\_\_  
(Identify correct option).
  - a) Helper T cells
  - b) The membrane of lymph nodes
  - c) cytotoxic T cells
  - d) B cells
- (v) You used SDA medium and observed salt and pepper appearance for a particular colony-  
apply your knowledge to identify fungal specimen.
  - a) Candida albicans
  - b) Aspergillus flavus
  - c) S.cerevisiae
  - d) Aspergillus niger
- (vi) Select from the following is a common laboratory method used for the identification of  
fungi?
  - a) Gram staining
  - b) PCR
  - c) Sabouraud agar culture
  - d) Urinalysis
- (vii) Which of the following is a common technique for obtaining a fungal specimen for  
culture?
  - a) PCR
  - b) Blood smear
  - c) Skin scraping
  - d) Gram staining
- (viii) Select the types of medically important fungal infection are

- a) Superficial mycoses  
c) Systemic Mycoses  
b) Subcutaneous mycoses  
d) All of these
- (ix) All of the following are the common methods that are used in the direct microscopic examination for the diagnosis of fungal pathogens, EXCEPT- choose correct answer.  
a) India Ink stain  
b) Silver stain  
c) Lactophenol cotton blue stain  
d) Leishman's stain
- (x) Identify the name of the enzyme responsible for integration of phage DNA into bacterial chromosome during lysogeny  
a) Integrase  
b) Exisionase  
c) Recombinase  
d) Gyrase
- (xi) One of the routine microscopic laboratory identification methods of the fungi is done by using\_\_ (select correct option).  
a) 70% KOH mount  
b) 50% Hydrogen Peroxide  
c) 10% KOH  
d) Formalin
- (xii) Rhizopus, Penicillium and Aspergillus are examples of\_\_(identify the correct option)  
a) Parasitic fungi  
b) Saprophytic fungi  
c) Symbiotic fungi  
d) Predacious fungi
- (xiii) Identify the name of biomolecules using which the viral genome is packaged.  
a) Protein  
b) Lipid  
c) Fat  
d) Carbohydrate
- (xiv) Identify the statement that is incorrect with respect to cryptococcosis.  
a) Contain thick GXM capsule layer  
b) Contain Both DNA and RNA  
c) Only have asexual form of reproduction  
d) All of these
- (xv) Choose the correct incubation period (in days) of fertile chicken eggs during cultivation of viruses?  
a) One  
b) Two  
c) Five  
d) Seven

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Describe the term Pseudomycellium with a proper example and diagram. (3)
3. Describe the diagnosis process incase of Wood lamp test. (3)
4. Explain the term peplomer with mentioning few functions of peplomer. (3)
5. Explain the working principle of negative satin in case of viral stain. (3)
6. Patient X feeling weak from last 6 months and having history of blood transfusion, doctor advised HIV test both screening and confirmation. Set up an experiment protocol to diagnose the Viral disorder via PCR. (3)

OR

Histoplasmosis is systemic mycoses but piedra is not- is it true? Justify your answer. (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. With example discuss the general features of basidiomycetes (5)
8. Discuss about cell culture technique for viral cultivation. (5)
9. If a viral particle contains dsDNA as genetic material, it does not need RdRp protein but if a viral particle contains ssRNA it needs RdRp viral protein. Analyze and explain your view (5)
10. A doctor suspects that Mr Mondal may be suffered with Cryptococcosis. fungi with many related clinical manifestations. Plan laboratory diagnosis for the infection detection. (5)
11. Aspergillus sp. is mold but candida sp. is neither mold nor yeast. From the information given, how can you justify the statement? (5)
12. Make a digram of the virus structure with brief description of viral morphological parts. (5)

**OR**

Explain the structure of corona virus with a suitable diagram.

(5)

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