

M.A



BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – B.Sc.(MLT)-2019/B.Sc.(MLT)-2020

Course Name – Medical Mycology and Virology

Course Code - BMLT503

(Semester V)

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) Identify the statement that is most correct about hyphae
- | | |
|----------------------------------|---|
| a) It is present in bacteria | b) They are a group of mycelia |
| c) All fungi have septate hyphae | d) The cell wall consists of a polysaccharide called chitin |
- (ii) Identify the color of the fungal cell wall when dyed with Periodic acid-Schiff stain
- | | |
|-------------------------|-----------|
| a) Black | b) Red |
| c) It appears colorless | d) Violet |
- (iii) Choose the option that is NOT TRUE with respect to aspergilloma:
- | | |
|--|---|
| a) Lungs are the most commonly affected site | b) More common in compromised individuals |
| c) IgG against etiologic agent will be present | d) No organisms will be present in the mass |
- (iv) Choose from the following, the infection that does not have serologic diagnosis:
- | | |
|---------------|---------------------|
| a) Candidosis | b) Aspergillosis |
| c) Mycetoma | d) Rhinosporidiosis |
- (v) Choose from the following the fungus that is likely to be present in or around rodent burrows in the desert of an endemic area is:
- | | |
|-----------------------------|-------------------------|
| a) Blastomyces dermatitidis | b) Aspergillus niger |
| c) Histoplasma capsulatum | d) Coccidioides immitis |
- (vi) Identify the correct option that does NOT apply to Dematophytes?
- | | |
|------------------------------|------------------------|
| a) Sensitive to greseofulvin | b) Opportunistic |
| c) Moniliaceous | d) Have septate hyphae |
- (vii) Identify the obligately parasitic fungus from the following options:
- | | |
|------------------------------|--------------------------|
| a) Ramichloridium mackenziei | b) Phialophora verrucosa |
| c) Sporothrix schenckii | d) Lacazia loboi |
- (viii) Persons who are Immunocompromised often suffer from several fungal diseases. Choose from the following that is least frequently associated

- a) *Cryptococcus neoformans*
 - b) *Aspergillus fumigatus*
 - c) *Malassezia furfur*
 - d) *Mucor* species
- (ix) Choose the correct incubation period (in days) of fertile chicken eggs during cultivation of viruses?
- a) One
 - b) Two
 - c) Five
 - d) Seven
- (x) Among the following tests, which one is NOT useful when infectious mononucleosis is suspected:
- a) IgM antibody to EB-VCA
 - b) IgG antibody to EB-VCA
 - c) Hetrophil antibody
 - d) Culture
- (xi) Choose from the following that is NOT an acceptable specimen for the isolation of enterovirus
- a) Feces
 - b) CSF
 - c) Urine
 - d) Skin Lessions
- (xii) Select the virus that promotes cell death by apoptosis
- a) Rubella
 - b) HSV
 - c) Vaccinia virus
 - d) Myxoma virus
- (xiii) *Rhizopus*, *Penicillium* and *Aspergillus* are examples of
- a) Parasitic fungi
 - b) Saprophytic fungi
 - c) Symbiotic fungi
 - d) Predacious fungi
- (xiv) Name of a drug that is used to inhibit DNA synthesis is
- a) Caspofungin
 - b) Micafungin
 - c) Parafungin
 - d) None of these
- (xv) The viral genome is packaged into a structure made of
- a) Protein
 - b) Lipid
 - c) Fat
 - d) Carbohydrate

Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. Explain the basic structure of Herpes Simplex virus (3)
- 3. Describe the general structure of a Yeast cell (3)
- 4. Explain the methods for identification of *Aspergillus* (3)
- 5. Cite the advantages and disadvantages of using Uranyl acetate during Negative staining of virus (3)
- 6. Report on the different variations of ELISA (3)

OR

Devise the methods of different modifications of PCR techniques (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

- 7. State the causes & treatment of candidiasis (5)
- 8. Cite the different sexual spores produced by fungus (5)
- 9. Explain the procedure of Negative staining of viral cultures (5)
- 10. Explain the pathogenesis of T4 phage of *E.coli* via lytic cycle (5)
- 11. Classify viruses on the basis of the shapes of their heads and explain in brief (5)
- 12. Compare & contrast between RT PCR and Rapid test for corona virus detection (5)

OR

Justify the efficacy of RIA in the detection of Hepatitis A (5)
