APRIL 2025 **57159/416C2A**

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer any TEN questions each in 50 words.

1. Define susceptibility testing.

2. What is the significance of using control strains in susceptibility testing?

3. Define diphtheria.

4. What disease is caused by Mycobacterium leprae?

5. What is the characteristic shape of *Vibrio cholerae*?

6. What is the causative agent of syphilis?

7. What is the significance of *Cryptococcus neoformans* in human health?

8. What is the characteristic feature of *Microsporum gypseum*?

9. Name one immunodiagnostic method used in fungal diseases diagnosis.

10. Define dimorphic fungi.

11. Define aseptic technique.

12. Define botulism.

PART B — (5 × 5 = 25 marks)

Answer any FIVE questions each in 200 words.

13. Describe the storage conditions required for different types of clinical specimens.

14. Discuss the treatment options for *Streptococcus pyogenes* infections.

15. Describe the laboratory diagnosis of *Helicobacter pylori* infections.

16. Explain the laboratory methods for antifungal susceptibility testing.

17. Explain common features of fungi causing secondary infections in immunocompromised patients.

18. Discuss the ethical considerations in the use of laboratory animals in research.

19. Discuss the environmental and clinical significance of dimorphic fungi.

PART C — ($4 \times 10 = 40$ marks)

Answer any FOUR questions each in 500 words.

20. Discuss the role of normal flora in the human body.

21. Describe the morphology, classification and pathogenesis of *Staphylococcus aureus*.

22. Describe the laboratory diagnosis and treatment of infections caused by *Pseudomonas aeruginosa*.

23. Describe the laboratory diagnosis and treatment of infections caused by *Candida albicans*.

24. Explain the laboratory diagnosis and treatment of systemic mycoses caused by *Coccidioides immitis*.

25. Discuss the protocols for handling and maintenance of laboratory animals, specifically rabbits, guinea pigs and mice.

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