

7. How do antifungal agents typically target fungal cells? CO1- U
 (a) Inhibition of DNA synthesis (b) Disruption of cell wall synthesis
 (c) Inhibition of protein synthesis (d) Blocking ergosterol synthesis
8. *Staphylococcus aureus* is known for its resistance to: CO1- U
 (a) Penicillin (b) Tetracycline (c) Ciprofloxacin (d) All of the above
9. What is the primary purpose of secondary metabolites in microorganisms? CO1- U
 (a) Basic cellular functions (b) Defense against predators
 (c) Structural support (d) Energy production
10. What is the source of vitamin B-12 in industrial production? CO1- U
 (a) Bacteria (b) Plants
 (c) Fungi (d) Algae

PART – B (5 x 2= 10 Marks)

11. Give a neat representation of Whittaker's five kingdom classification. CO1- U
12. List the different modes of cell division. CO1- U
13. Differentiate selective media and differential media. CO1 -U
14. Subasri needs to sterilize a culture medium containing heat labile substance. CO2 -App
 Suggest her with the method with proper justification.
15. Write the environmental advantages of using biopesticides. CO1 -U

PART – C (5 x 16= 80 Marks)

16. (a) Write about the different types of microscopes and highlight the parts and function of each part of bright field microscope. CO1- U (16)
 Or
 (b) Explain in detail about bacteriophages with neat illustration CO1- U (16)
17. (a) Write a note on different forms of Bacteria and give detailed note on bacterial multiplication. CO1- U (16)
 Or
 (b) Write a detailed note on asexual reproduction of fungi CO1- U (16)
18. (a) Discuss the importance of nutritional flexibility in bacterial CO1- U (16)

adaptation to diverse environments.

Or

- (b) Describe the Entner–Doudoroff pathway as an alternative to glycolysis in bacterial metabolism. CO1- U (16)

19. (a) Discuss the mechanisms of action of chemical agents used for microbial control. Highlight the factors influencing the efficacy of chemical control methods. CO1- U (16)

Or

- (b) Provide an overview of *Staphylococcus aureus*, including its morphology, virulence factors, and common infections it causes. CO1- U (16)

20. (a) Describe the various methods used for the preservation of food with a focus on microbial control. CO1- U (16)

Or

- (b) Explain in detail about biosensors and biofilters CO1- U (16)

