



# Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)

Re-accredited with an 'A++' Grade by NAAC CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

## Continuous Internal Assessment Test I – August 2025 Semester V

Class: III UG

Major: Biochemistry and Biotechnology

23BBCDE1 Biology of Infectious Diseases

Time: 2 hours

Max. Marks: 60

### Course Outcomes:

- CO1: Acquainted with various classes of microbial infectious agents, their mode of action, biology of the diseases, transmission of diseases; the concepts of treatment, and drug resistance for various antimicrobial agents.
- CO2: Learn molecular basis of diagnosis and treatment of diseases as well as strategies for development of vaccines against these diseases.
- CO3: Exposed to the details of important infectious diseases such as tuberculosis, AIDS, malaria, filariasis, etc. which are highly prevalent in tropical countries.
- CO4: Understand the significance of hygiene, sanitation, vaccination in prevention of infectious diseases.
- CO5: Acquire the knowledge to isolate bacteria, to stain bacteria, fungi, acid fast bacilli and to perform important diagnostic tests for infectious diseases such as WIDAL test

### Part A- Answer all questions

(6X1 = 6 Marks)

(Multiple choice questions)

1. Which of the following is NOT a mode of transmission for infectious diseases?  
a. Direct contact                      c. Indirect contact  
b. Airborne spread                      d. Genetic inheritance  
CO1K1
2. Which of the following is the most common site of nosocomial infection?  
a. Surgical wound    b. Urinary tract    c. Bloodstream    d. Respiratory tract  
CO1K1
3. Which of the following is considered an emerging infectious disease?  
a. Tuberculosis    b. COVID-19    c. Cholera    d. Influenza (H1N1) 1918  
CO1K1
4. A person who harbors a pathogen without showing symptoms and can transmit it is called a:  
a. Carrier    b. Reservoir    c. host    d. Vector  
CO2K3
5. Which virulence factor allows *Streptococcus pyogenes* to resist phagocytosis?  
a. M protein                                      c. Lipopolysaccharide (LPS)  
b. Capsule of hyaluronic acid                      d. Hemolysin  
CO2K3
6. Which of the following bacteria is commonly known as MRSA?  
a. Methicillin-Resistant *Staphylococcus aureus*  
b. Multidrug-Resistant *Salmonella*  
c. Multi-Resistant *Streptococcus agalactiae*  
d. Mycobacterium-Resistant *Streptococcus aureus*  
CO2K3

### Part B

3 x 6 = 18

Answer the following

Answers should not exceed 200 words or one page

7. a. Classify infectious diseases and explain with examples based on duration, occurrence, source, and mode of transmission  
(Or)  
CO1K2
7. b. Define nosocomial infections and list their common types and preventive measures. CO1K2
8. a. Describe the safety measures to be followed when working with infectious pathogens.  
(Or)  
CO1K3
8. b. Relate bacterial toxins, enterotoxins, and their mode of action with examples. CO2K2

9. a. Explain the pathogenesis of diarrhea, with special reference to *Vibrio cholerae* and cholera toxin. CO2K3
- (Or)
9. b. Enumerate bacterial agents causing pneumonia and explain their virulence mechanisms. CO2K3

**Part C**

3 x 12 = 36

**Answer the following not exceeding 700 words or four pages**

10. a. Discuss the Source, Reservoir and Transmission of infectious diseases with examples. CO1K2
- (Or)
10. b. Write a detailed account of emerging and re-emerging infectious diseases CO1K4
11. a. Discuss the Role of drugs, vaccines and sanitation in prevention and treatment of infectious diseases. CO1K3
- (Or)
11. b. Explain the classification of bacterial pathogens with examples, and describe major virulence factors. CO2K3
12. a. Describe tuberculosis with reference to infection and pathogenicity, diagnostic methods, therapeutic approaches, available vaccines, and drug resistance CO2K2
- (Or)
12. b. Define multidrug-resistant (MDR) bacteria, give examples, mechanisms of resistance, and control strategies. CO2K2

Staff in-charge: Aided Programme: Dr. Velvizhi

SF Programme : Dr. Jeba Sweetly

**Total Number of QP: 31 (aided)+ 35 (SF)**