



**All India Institute of Medical Sciences, Kalyani**  
**Second Professional MBBS Examination, February 2024**

**Time: 3 Hrs.**

**Microbiology (Paper-II)**

**Marks: 100**

- Answer all questions.
- Answer the questions in the same serial order strictly.
- Illustrate your answers with well labelled diagram wherever necessary.
- Answer each section in a separate answer book.

**SECTION - A (50 MARKS)**

**Long answer question:**

**[0.5+1+4.5+4=10]**

1. A 25-year-old man presents with low grade fever, progressive chronic diarrhea, cough, and hemoptysis and weight loss over the last 2 months. On further enquiry, he gives history of promiscuous sexual activity and visit to red light area in the past.
  - a. State your provisional diagnosis.
  - b. What may be the agent/s responsible for this disease?
  - c. Describe the diagnostic modalities you would like to pursue for this patient?
  - d. Name five opportunistic infections and three opportunistic malignancies which can occur in this disease.

**Write Short notes on:**

**[8×5=40]**

2. Viral Diarrhea
3. Laboratory diagnosis of COVID-19
4. Laboratory Diagnosis of Hepatitis B virus infection
5. Genetic mechanisms of variation in Influenza virus and their importance
6. Rabies vaccine
7. Role of HPV in human cancer
8. Laboratory diagnosis of Japanese encephalitis (JE)
9. Pathogenesis of dengue hemorrhagic fever

**SECTION - B (50 MARKS)**

**Long answer question:**

**[1+3+3+3=10]**

1. Enumerate the parasites causing malaria. Draw a labelled diagram of the life cycle of the parasite, showing the potential targets of action of anti-malarial drugs. Describe the pathogenesis and laboratory diagnosis of cerebral malaria.

**Write Short notes on:**

**[8×5=40]**

2. Lab diagnosis of Cryptococcal meningitis
3. Neurocysticercosis
4. Laboratory Diagnosis of Dermatophyte infections
5. Primary Amoebic Meningoencephalitis
6. Laboratory diagnosis of Kala-azar
7. Opportunistic mycosis
8. Laboratory diagnosis of mucormycosis
9. Life cycle of *Ascaris lumbricoides*

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