



All India Institute of Medical Sciences, Kalyani
Second Professional MBBS Examination (Batch-2020-21)

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:

[2+3+2+3=10]

1. There is an outbreak of fever, cough, and shortness of breath in a crowded public psychiatric long-term inpatient facility. Two of the affected middle-aged patients required hospitalisation and oxygen therapy for desaturation. On imaging, a bronchopneumonia pattern of opacity involving multiple lung lobes was found.
 - a. What are the probable viral pathogens responsible for this condition?
 - b. How will you approach towards the laboratory diagnosis of these cases?
 - c. What are the possible complications of such an illness?
 - d. Discuss about the viral mutations and immune evasion mechanisms of the two most important viruses causing the above disease.

Write Short notes on:

[8X5=40]

2. Opportunistic infections associated with HIV
3. Viral gastroenteritis
4. Parenterally borne viruses affecting the liver along with their possible complications
5. Human Monkeypox Infection
6. Varicella and Zoster – clinical features, pathogenesis, complications and treatment
7. Advantages and disadvantages of mass oral polio vaccination
8. Laboratory diagnosis and prevention of rabies
9. Enumerate the names, vector and complications of the arthropod borne viral diseases prevalent in India

SECTION - B (50 MARKS)

Long answer question:

[2+3+3+2=10]

1. A 27-year-old male from Nadia district presented to the OPD with a history of high-grade fever for the last 7 days along with upper right quadrant abdominal pain. On USG, three large liver abscesses were seen on the right lobe. He had a history of the passage of semi-formed stool mixed with blood and mucous 6 weeks back which was treated with over-the-counter medications from the local pharmacy.
 - a. What is the provisional diagnosis and the most probable parasitic agent causing this illness?
 - b. Mention the pathogenesis of the intestinal and extra-intestinal manifestations of this agent.
 - c. Write about the laboratory diagnosis of this condition.
 - d. Mention the treatment and prevention of this disease.

Write Short notes on:

[8X5=40]

2. Life cycle and pathogenesis of falciparum malaria parasite inside the human host
 3. Taeniasis and neurocysticercosis
 4. Hydatid Cyst
 5. Dimorphic fungal infections
 6. Fungi affecting the skin, hair, and nails
 7. Different staining and culture techniques used to detect fungal infections
 8. Post-COVID Mucormycosis
 9. Fungi and parasites affecting the eye
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