

MD (Microbiology) Examination
August-September 2025
Microbiology Paper -1
(General Microbiology & Immunology)

[Time: 3 hours]

[Total Marks: 100 marks]

Instruction:

1. All questions are compulsory.
2. Draw a labelled diagrams wherever necessary.
3. Figures to the right indicate marks.
4. Write in legible handwriting

Q.1 Write in detail on Antigen processing pathway by Major Histocompatibility Complex (MHC) and role of MHC in pathogenesis and prevention of infectious diseases. (20 marks)

Q.2 Discuss various molecular diagnostic techniques used in rapid diagnosis of infectious diseases. (20 marks)

Q.3 Write short notes on (20 marks)

- a) Role of complement in Health and disease
- b) Plasma sterilization
- c) Fluorescent Microscopy
- d) Gene therapy.

Q.4 Write short notes on (40 marks)

- a) Discuss about various types of Biosafety cabinet used in Microbiology laboratory.
- b) Write notes on biofilm . explain its clinical implication with respect to patient outcome.
- c) Enlist various virulence factor of bacteria and discuss their role in pathogenesis of diseases
- d) Describe various method of sterilization by moist heat and explain what is "CSSD Recall Policy".

-----END-----

2406 1214 01010502

SMIMER
CENTRAL LIBRARY

MD (Microbiology) Examination
August-September 2025
Microbiology Paper -2

[Time: 3 hours]

[Total Marks: 100 marks]

Instruction:

1. All questions are compulsory.
2. Draw a labelled diagrams wherever necessary.
3. Figures to the right indicate marks.
4. Write in legible handwriting

Q-1 Enumerate the Sexually transmitted diseases. Describe the epidemiology, pathogenesis and laboratory diagnosis of Syphilis. (20 marks)

Q-2 Write short notes on (20 marks)

- a) Methicillin Resistant Staphylococci aureus
- b) Write Laboratory diagnosis of Mycoplasma Infection.
- c) Write brief notes on Uropathogenic E. coli.
- d) Discuss protozoal parasites causing infection in HIV infected patients.

Q-3 An outbreak of Acute watery diarrhea in a locality. Being a Microbiologist, Which are the important steps you will take to identify the causative organism and control the outbreak? How will you proceed in this situation? (20 marks)

Q-4 Write short notes on (40 marks)

- a) Write in detail about recent advances in laboratory diagnosis of pulmonary tuberculosis.
- b) Describe clinical features and laboratory diagnosis of Septicemia.
- c) Write Causative agents of Neonatal Meningitis and describe their laboratory diagnosis.
- d) Describe in detail about brucellosis.

-----END-----

MD (Microbiology) Examination
August-September 2025
Microbiology Paper -3

[Time: 3 hours]

[Total Marks: 100 marks]

Instruction:

1. All questions are compulsory.
2. Draw a labelled diagrams wherever necessary.
3. Figures to the right indicate marks.
4. Write in legible handwriting

Q-1 Discuss the morphology, pathogenesis, laboratory diagnosis, treatment and preventive measures Hepatitis B virus infection. (20 marks)

Q-2 Write short notes on: (20 marks)

- a) Intracellular fungi.
- b) Discuss Antigenic variation in orthomyxoviruses
- c) The NACO strategies of HIV testing in India.
- d) Neurocysticercosis

Q-3 Enumerate CNS infection producing parasites. Outline in brief , life cycle, and Laboratory Diagnosis of Free living Amoebae (20 marks)

Q-4 Write notes on (40 marks)

- a) Describe Antifungal susceptibility testing.
- b) Discuss life cycle and laboratory diagnosis of *Falciparum* Malaria. Add note on Malaria vaccines.
- c) Discuss the pathogenesis and newer diagnostic method in detection of Dengue virus infection.
- d) Superficial fungal infection

-----END-----

24061214 01010504



MD (Microbiology) Examination
August-September 2025
Microbiology Paper -4

[Time: 3 hours]

[Total Marks: 100 marks]

Instruction:

1. All questions are compulsory.
2. Draw a labelled diagrams wherever necessary.
3. Figures to the right indicate marks.
4. Write in legible handwriting

Q-1 Discuss the quality Assurance and Quality control in Bacteriology laboratory. (30 marks)

Q-2 Write Notes on

(40 marks)

a) Describe in details emerging and re-emerging infection.

b) What is whole genome sequencing? Enumerate various methods of whole genome sequencing with applications. Describe in detail role of whole genome sequencing during COVID 19 pandemic.

Q-3 Discuss the Role of Microbiology laboratory in Antimicrobial stewardship program (AMSP) with special reference to Antibiotic policy and Antibio gram. (30 marks)

-----END-----