

Aug - 2026

**BLDE (DEEMED TO BE UNIVERSITY)
POST GRADUATE DEGREE EXAMINATION**

[Time: 3 Hours]

[Max. Marks: 100]

MD MICROBIOLOGY – PAPER - I

QP CODE: 5017

Your answer should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

Each answer should be written on new page only.

Write Question No. in the middle of the page.

Long Essay

2x20=40 Marks

1. Critically evaluate antimicrobial agents in terms of pharmacokinetics, pharmacodynamics, and resistance mechanisms. Discuss strategies to combat antimicrobial resistance.
2. Analyze the role of immune system components in health and disease. Include innate and adaptive immunity, cytokines, MHC, and immune tolerance with clinical correlations.

Short Essay

6x10=60 Marks

3. Describe methods for microbiological examination of air, water, and food.
4. Explain preservation techniques of microorganisms and their laboratory significance.
5. Discuss viral structure, replication, and laboratory diagnosis (general principles).
6. Describe autoimmune disorders and their immunological basis.
7. Explain molecular diagnostic techniques (PCR, sequencing) in infectious diseases.
8. Discuss quality assurance, accreditation, and NABL standards in microbiology labs.

19/08

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POST GRADUATE DEGREE EXAMINATION**

[Time: 3 Hours]

[Max. Marks: 100]

**MD MICROBIOLOGY – PAPER - II
QP CODE: 5018**

Your answer should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.
Each answer should be written on new page only.
Write Question No. in the middle of the page.

Long Essay

2x20=40 Marks

1. Discuss the microbiological basis of infective endocarditis and sepsis, including etiological agents, pathogenesis, laboratory diagnosis, and recent trends in antimicrobial resistance.
2. Describe the microbiological causes of central nervous system infections, highlighting differences in etiology and pathogenesis of meningitis, encephalitis, and brain abscess.

Short Essay

6x10=60 Marks

3. Microbiological profile and pathogenesis of community-acquired and hospital-acquired pneumonia.
4. Etiology, virulence factors, and laboratory diagnosis of urinary tract infections (UTIs).
5. Microbiological aspects of gastroenteritis and dysentery.
6. Sexually transmitted infections: microbiological basis and syndromic approach.
7. Microbiology of skin and soft tissue infections, including necrotizing fasciitis.
8. Microbiological causes and pathogenesis of osteomyelitis and septic arthritis.

BLDE (DEEMED TO BE UNIVERSITY) POST GRADUATE DEGREE EXAMINATION

[Time: 3 Hours]

[Max. Marks: 100]

MD MICROBIOLOGY-PAPER-III QP CODE: 5019

Your answer should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.
Each answer should be written on new page only
Write Question No. in the middle of the page.

Long Essay

2x20=40 Marks

1. Describe tuberculosis with respect to microbial agents, Transmission mechanisms, Pathogenesis, Laboratory diagnosis, Public health interventions.
2. Analyze infections associated with:
 - a. Medical devices (prosthetic joints, catheters)
 - b. Healthcare settings and occupational exposure Include: Biofilm formation, common pathogens, Prevention strategies and infection control policies

Short Essay

6x10=60 Marks

3. Gram-negative bacilli: non-fermenters.
4. Zoonotic infections: rabies and leptospirosis.
5. Chlamydia and Mycoplasma: microbiological features and diseases.
6. Viral infections: DNA vs RNA viruses with examples.
7. Protozoa: Toxoplasma – life cycle and diagnosis.
8. Laboratory-acquired infections: risks and biosafety measures

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[Max. Marks: 100]

**MD MICROBIOLOGY – PAPER - IV
QP CODE: 5020**

Your answer should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.
Each answer should be written on new page only.
Write Question No. in the middle of the page.

Long Essay

2x20=40 Marks

1. Discuss antimicrobial resistance (AMR) in detail, including mechanisms of resistance, laboratory detection methods (phenotypic and molecular), and strategies for prevention and control in hospital and community settings.
2. Describe the investigation of an infectious disease outbreak in a tertiary care hospital. Include steps in outbreak investigation, epidemiological tools, laboratory support, and control measures.

Short Essay

6x10=60 Marks

3. Classify vaccines and describe the principles of vaccine preparation and administration.
4. Discuss healthcare-associated infections (HAIs): types, pathogenesis, and prevention strategies.
5. Biomedical waste management: categories, segregation, and disposal as per guidelines.
6. Molecular diagnostic techniques (PCR, RT-PCR, sequencing) in infectious diseases.
7. Laboratory biosafety measures and management of needle-stick injuries.
8. Antimicrobial susceptibility testing: methods and interpretation (CLSI/EUCAST).