

M.Sc. MEDICAL MICROBIOLOGY
SEMESTER -IV EXAMINATION, JUNE-2026

PAPER – I : APPLIED MICROBIOLOGY-I

[Time allotted: Three Hours]**[Max Marks: 100]****Note:** Read all the instructions carefully

Answer all questions in serial order, Draw suitable diagrams wherever necessary

Q. 1. Objective type questions: (Reasoning/ MCQ)**(10 x 01 = 10)**

- a. Hospital-acquired infection (HAI) is defined as an infection occurring:
 - i. Within 12 hours of admission
 - ii. Within 24 hours of admission
 - iii. After 48 hours of hospital admission
 - iv. Before admission
- b. Which of the following is NOT a common type of HAI?
 - i. Urinary tract infection
 - ii. Surgical site infection
 - iii. Ventilator-associated pneumonia
 - iv. Malaria
- c. The most common route of transmission of HAI is:
 - i. Airborne route
 - ii. Vector transmission
 - iii. Contact transmission
 - iv. Foodborne transmission
- d. The committee responsible for infection prevention policies in hospitals is called:
 - i. Hospital sanitation committee
 - ii. Infection Control Committee
 - iii. Pharmacy committee
 - iv. Ethics committee
- e. Which of the following is an example of a device-associated infection?
 - i. Surgical site infection
 - ii. Catheter-associated urinary tract infection
 - iii. Skin infection
 - iv. Food poisoning
- f. Yellow colour-coded bags are used for disposal of:
 - i. Glassware
 - ii. Human anatomical waste
 - iii. Plastic waste
 - iv. Sharps
- g. Which of the following is the most effective method of hand hygiene?
 - i. Soap and water
 - ii. Alcohol-based hand rub
 - iii. Chlorhexidine
 - iv. Iodine solution
- h. The most common organism causing catheter-associated UTI (CAUTI) is:
 - i. Pseudomonas aeruginosa
 - ii. Klebsiella pneumoniae
 - iii. Escherichia coli
 - iv. Enterococcus faecalis
- i. Autoclaved biomedical waste is disposed in which category?
 - i. Yellow
 - ii. Red
 - iii. White
 - iv. Blue
- j. Surgical site infections (SSI) are most commonly caused by:
 - i. Streptococcus pyogenes
 - ii. Staphylococcus aureus
 - iii. Escherichia coli
 - iv. Proteus species

Q. 2. Structured questions**(03 x 10 = 30)**

- a. Classify Surgical Site Infections and briefly describe risk factors and infection control practices for the same. (PO1, CO1)
- b. Enumerate 03 device-associated infections. Briefly explain any one of them in terms of risk factor and surveillance. (PO1, CO1)
- c. Enumerate different modes of transmission of HAI and explain any one in brief. (PO1, CO1)

Q. 3. Short answer type questions**(06 x 05 = 30)**

- a. Components and uses of Personal Protective Equipment (PPE). (PO1, CO1)
- b. WHO five moments and importance of hand hygiene. (PO1, CO1)
- c. Airborne and droplet transmission of HAI. (PO1, CO1)
- d. Enumerate the physical methods of sterilisation and add a brief note on any one method. (PO1, CO1)
- e. Enumerate the commonly used disinfectants and mention their uses in hospital practice. (PO1, CO1)
- f. Write briefly on Laboratory diagnosis of UTI

Q. 4. Long Answer type questions**(02 x 15 = 30)**

- a. Define Healthcare-Associated Infections (HAI). Discuss the classification, prevention, and surveillance of HAI. (PO1, CO1)
- b. Define Biomedical Waste and add a note on the waste categories and methods of disposal. (PO2, CO1)