REV-01
MMB/02/07

2025/11

SET A

M.Sc. MICROBIOLOGY
THIRD SEMESTER
CLINICAL MICROBIOLOGY AND DIAGNOSTIC TECHNIQUES
MMB-303

[USE OMR FOR OBJECTIVE PART]

Duration: 1.30 hrs. **Full Marks: 35**

Objective **Marks: 10**

Time: 15 min. *1X10=10*

Choose the correct answer from the following:

1. Which of the following best describes the first step in the pathogenesis of most microbial infections?
   a. Tissue damage caused by toxins
   b. Adherence of the pathogen to host cells
   c. Evasion of the host immune system
   d. Invasion of the bloodstream

2. Which of the following best describes the role of a microbiology laboratory in the control and diagnosis of infections?
   a. Only identifies pathogens but does not help in treatment decisions
   b. Only performs blood tests for antibodies
   c. Replaces the need for clinical examination
   d. Detects pathogens, guides appropriate therapy, and monitors outbreaks

3. Which of the following is the most effective method for sterilizing laboratory glassware and culture media?
   a. Wiping with ethanol
   b. Autoclaving at 121°C under pressure
   c. Boiling in water for 5 minutes
   d. Exposure to UV light for 1 minute

4. Which of the following statements about a carbuncle is TRUE?
   a. A carbuncle is a single small boil caused by *Streptococcus pyogenes.*
   b. A carbuncle is a cluster of interconnected furuncles, usually caused by *Staphylococcus aureus.*
   c. Carbuncles are viral skin infections that heal without treatment.
   d. Carbuncles only occur on mucous membranes, not on the skin.

5. Which of the following statements about impetigo is CORRECT?
   a. Impetigo is a deep skin infection primarily caused by *Pseudomonas aeruginosa.*
   b. Impetigo is a superficial bacterial skin infection, commonly caused by *Staphylococcus aureus or Streptococcus pyogenes.*
   c. Impetigo is a viral infection characterized by vesicles on mucous membranes only.
   d. Impetigo requires systemic antifungal therapy for treatment.

6. Which of the following is the most common bacterial cause of acute pharyngitis?
   a. *Streptococcus pyogenes* (Group A)
   b. *Staphylococcus aureus*
   c. *Haemophilus influenzae*
   d. *Escherichia coli*

7. Which of the following is a sulpha drug
   a. Penicillin
   b. Amoxicillin
   c. Norfloxacin
   d. Sulphanilamide

8. Which antibiotic is antiviral drug
   a. AmpotericinB
   b. Flucanozole
   c. Acyclovir
   d. Sulphanillamid4

9. Mode of action of Quinolone druges inhibit
   a. Protein synthesis
   b. Replication
   c. Cell wall inhibition
   d. Plasmamembrane perforation

10. Helicobacter pylori interferes in
   a. Intestinal tract infection
   b. Respiratory infection
   c. Skin infection
   d. Gastrointestinal tract

-- --- --

Descriptive

Time : 1 hrs. 15 min. Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. Explain pyrexia of unknown origin (PUO). 5

2. Explain the properties of drug? Describe the mode of infection of Beta lactam antibiotics and quinolone drug with a neat diagram 5+5=10

3. a)Explain the mode of action of drugs involved in Intestinal tract infection and HIV 5+5=10
   b) Write the causative agent ,symptoms and diagnosis of UTI and AIDS

4. Write short notes on: 5+5 = 10
   (a) Otitis media
   (b) Impetigo

5. Differentiate between bacteremia and sepsis. 10

= = *** = =