18067

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – M.Sc.(MB)-2024
Course Name – Medical Bacteriology
Course Code - MMB30111
(Semester III)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Streptococci are the common resident flora of which area?

a) mouth b) colon
c) duodenum d) stomach

(ii) Which of the following statements about the classification regarding streptococci is correct except

a) Pneumococci (Streptococcus pneumoniae) are alpha-hemolytic and can be serotyped on the basis of their polysaccharide capsule
b) Enterococci are group D streptococci and can be classified by their ability to grow 6.5% sodium chloride
c) Viridans streptococci are identified by Lancefield grouping, which is based on the C carbohydrate in the cell wall
d) Although pneumococci and the viridans streptococci are alpha-hemolytic, they can be differentiated by the bile solubility test and their susceptibility to optochin

(iii) Where Streptococcus mutans adhere to the body site?

a) intestinal tract b) tongue
c) teeth d) hairs

(iv) Endotoxin (LPS) represents

a) Gram positive bacteria b) Gram negative bacteria
c) someprotozoa d) fungi

(v) Salmonella typhi shows

a) Undulent fever b) Remittent fever
c) Dengue fever d) Enteric fever

(vi) Give an example of the disease that caused by E. coli, except

a) Meningitis b) Septic infections of wounds
c) Diarrhoea d) Dysentery

(vii) Write the name of the confirmatory test for gonorrhea

a) Enzyme immunoassay (EIA) test. b) VDRL

c) NAAT
d) All of these

(viii) Mycobacteria possess which type of cell wall.

a) Picolinic acid
b) complex
c) lipid-rich
d) lipid-rich and lipid-rich

(ix) Main symptom of tuberculosis considers

a) Tubercle formation
b) Liquid formation
c) Tubercle formation and Liquid formation
d) None of these

(x) The causative agent for tetanus is

a) Clostridium botulinum
b) Cl. tetani
c) Cl. welchii
d) Cl. perfringens

(xi) Chemical nature of endotoxins infers

a) protein
b) polysaccharide
c) lipopolysaccharide
d) lipid

(xii) Write the type B subunits are present in cholera toxin?

a) 1
b) 2
c) 3
d) 5

(xiii) Write the name of the following has the ability to bind antibodies

a) Coagulase
b) Streptokinase
c) Protein A
d) Hydrogen Peroxide

(xiv) Expressionn of the following set of diseases include all the sexually transmitted diseases

a) Tuberculosis, Gonorrhoea, Chlamydia
b) AIDS, Hepatitis-B, Trichomoniasis
c) SARS, Hepatitis-A, Genital Herpes
d) Hepatitis-B, Syphilis, SARS

(xv) Explain the conditions that aggravate the fungal diseases

a) Heat and moisture
b) Cold and dry
c) Humid and Cold
d) Scorching heat

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Write the beneficial role of normal Flora (3)
3. Illustrate the name of three physical antibacterial physical agents with mode of action (3)
4. Interpret Koch's postulates (3)
5. Recommend a diagnostic strategy for detecting Haemophilus influenzae in a clinical sample (3)
6. Describe VDRL test (3)

OR

Illustrate the Role of Biosafety cabinet in Medical Microbiology (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Describe the main properties of pathogenic microorganisms and how these properties contribute to their ability to cause disease in humans (5)
8. Explain the concept of virulence factors and how they enhance the pathogenicity of microorganisms. Provide examples of virulence factors from different pathogens. (5)
9. Describe a situation where a clinician might choose a molecular diagnostic test over a conventional test. Provide reasons for this decision (5)
10. Develop an epidemiological study design to investigate a suspected foodborne illness outbreak. Consider factors like sample selection and data collection methods (5)
11. Define sterilization. List the various methods of sterilization with suitable examples (5)
12. Describe the various modes of transmission of infectious agents, including direct and indirect transmission and airborne transmission (5)

OR

Describe the steps involved in the transportation of specimens from the collection site to the laboratory for processing (5)

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