REV-01
BMLT/45/23/28

2023/06

SET A

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
SECOND SEMESTER
MICROBIOLOGY II
BMLT – 204

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

(Objective)

Time: 30 min. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. Lophotrichous flagellum arrangement means
   a. Single polar flagellum at one end
   b. Tuft flagella at one end or both ends
   c. Single polar flagellum at both ends
   d. Flagella arrange all round the cell

2. Function of fimbriae
   a. It helps in movements
   b. Hair like projection
   c. It help in attachment
   d. None of the above

3. Clinical or subclinical infections lead to
   a. Active natural immunity
   b. Active artificial immunity
   c. Passive natural immunity
   d. Passive artificial immunity

4. Vaccination induces:
   a. Active natural immunity
   b. Active artificial immunity
   c. Passive natural immunity
   d. Passive artificial immunity

5. All factors influenced innate immunity except
   a. Age
   b. Hormone
   c. Nutrition
   d. Sex

6. Which of following mouth enzyme inhibit microorganism
   a. Amylase
   b. lipase
   c. Catalase
   d. Pepsin

7. Staphylococcus cell wall contains
   a. Thin peptidoglycan layer
   b. Thick peptidoglycan layer
   c. Both a & b
   d. It contains mycolic acid

8. Detection of bacterial capsule is done by
   a. Indian ink stain
   b. Nigrosine dye
   c. Both a & b
   d. AFB stain

9. Generation time of Mycobacterium tuberculosis is about
   a. 20 seconds
   b. 20 minutes
   c. 20 hours
   d. 20 days

10. Which of the following bacteria can grow in acidic pH
   a. Klebsiella spp
   b. Lactobacilli
   c. Pseudomonas aeruginosa
   d. Vibrio cholera

11. Which of the following coliform bacteria is predominant in the human gastrointestinal tract?
   a. Bacillus cereus
   b. Vibrio cholerae
   c. Lactobacillus acidophilus
   d. Escherichia coli

12. Which of the following bacteria is a part of normal flora present inside the mouth and also a frequent cause of bacterial dental caries?
   a. Staphylococcus epidermidis
   b. Lactobacillus acidophilus
   c. Streptococcus mutans
   d. Candida albicans

13. Degree of pathogenicity is referred to as-
   a. Infection
   b. Virulence
   c. Avirulence
   d. Attenuated

14. Which of the following cocci-shaped bacteria usually grow in pairs?
   a. Klebsiella spp
   b. Neisseria spp
   c. Pseudomonas spp
   d. Clostridium spp

15. What is the chemical nature of endotoxins?
   a. Protein
   b. Polysaccharide
   c. Lipopolysaccharide
   d. Lipid

16. Which of the following is the usual method by which diphtheria is spread?
   a. Droplets of moisture coughed into the air
   b. Feces and urine
   c. Physical contact
   d. Sexual activity

17. CAMP reaction can be used to identify
   a. Streptococcus pyogenes
   b. Streptococcus agalactiae
   c. Streptococcus equisimilis
   d. Streptococcus mitis

18. Draughtsman colony is a characteristic feature of
   a. Streptococcus pyogenes
   b. Streptococcus pneumoniae
   c. Enterococcus faecalis
   d. Viridans streptococci

19. Babes-Ernst granules are present in
   a. Mycobacterium tuberculosis
   b. Mycobacterium laprae
   c. Corynebacterium diphtheriae
   d. Bacillus cereus

20. Which colour plastic bag can be used for non-infectious waste
   a. Yellow
   b. Red
   c. Black
   d. Blue

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Descriptive

Time : 2 hrs. 30 min. Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Explain innate and acquired immunity in details. 10

2. a. Define antigen. Draw the structure of immunoglobulin. 5+5=10
   b. Define flagella. Write short notes on different arrangement of flagella.

3. a. Write principle, procedure and interpretation of catalase test. 6+4=10
   b. Define spore. Draw a diagram of spore.

4. a. Describe the normal flora of human body. 5+5=10
   b. Enumerate the differences between endotoxins and exotoxins.

5. a. Describe the morphology, cultural characteristics, pathogenicity and laboratory diagnosis of Streptococcus pyogenes. 7+3=10
   b. Describe different types of bacterial-host interactions.

6. a. Describe the morphology, cultural characteristics, pathogenicity and laboratory diagnosis of Staphylococcus aureus. 7+3=10
   b. Define biomedical waste. What are the various types of waste generated in hospital?

7. a. Describe the morphology, cultural characteristics, pathogenicity and laboratory diagnosis of Corynebacterium diphtheria. 6+4=10
   b. Explain the various treatment and disposal methods of biomedical waste.

8. a. Describe the laboratory diagnosis of Gonococci. 4+6=10
   b. Explain the bacterial growth curve with labelled diagram.

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