



**BACHELOR OF MEDICAL LABORATORY  
TECHNOLOGY  
SECOND SEMESTER  
MICROBIOLOGY II  
BMLT – 204 [REPEAT]**

[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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