

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
FIRST SEMESTER
MICROBIOLOGY I
BMLT – 104
(USE OMR SHEET FOR OBJECTIVE PART)

**SET
A**

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

(Objective)

Marks: 20

Choose the correct answer from the following:

1×20=20

1. Viable count of bacteria means
 - a. Total count of bacteria
 - b. No of living cell
 - c. Both a & b
 - d. No of death bacteria
2. Lipopolysaccharide is a major component of cell in
 - a. Gram positive bacteria
 - b. Gram negative bacteria
 - c. Fungus
 - d. Parasite
3. Holder method is the example of
 - a. Tyndallisation
 - b. Pasteurization of milk
 - c. Dry heat sterilization
 - d. Chemical method sterilization
4. Chemical disinfectants which can be safely applied to living tissues to prevent infection are known as:
 - a. Antiseptics
 - b. Formaldehyde
 - c. Ethylene oxide
 - d. None of the above
5. Which of the following sterilisation conditions are used in autoclave?
 - a. 121°C, 15 pounds pressure/sq inch, 15 minutes
 - b. 140°C, 10 pounds pressure/sq inch, 15 minutes
 - c. 160°C, 20 pounds, pressure/sq inch 20 minutes
 - d. None of the above
6. Which bacterial spores are used as sterilisation control in autoclave?
 - a. Clostridium perfringens
 - b. Bacillus cereus
 - c. Bacillus stearothermophilus
 - d. Pseudomonas aeruginosa
7. The process by which an article, surface or medium is made free of all microorganisms either in the vegetative or spore form is known as
 - a. Sterilization
 - b. Disinfection
 - c. Asepsis
 - d. Antiseptic
8. Function of decolourizer in gram staining is
 - a. Remove the excess stain
 - b. Form complex with crystal violet
 - c. Swell the bacterial cell
 - d. Both b & c

9. Bacteria which can grow at temperature between 25°C and 40°C are known as:
- | | |
|-----------------|---------------------|
| a. Mesophiles | b. Psychrophiles |
| c. Thermophiles | d. All of the above |
10. Generation time of *Mycobacterium tuberculosis* is about:
- | | |
|---------------|---------------|
| a. 20 seconds | b. 20 minutes |
| c. 20 hours | d. 20 days |
11. Light Source in microscope also called as
- | | |
|--------------|--------------------|
| a. Condenser | b. Fine adjustment |
| c. Stage | d. Illuminator |
12. Other name of 10X objective lens
- | | |
|---------------|------------------|
| a. High Power | b. Low power |
| c. Scan | d. Oil immersion |
13. PCR was discovered by
- | | |
|----------------|------------------|
| a. Metchnikoff | b. Kary B Mullis |
| c. Gilbert | d. Fleming |
14. Father of modern microbiology is
- | | |
|----------------|------------------|
| a. Leeuwenhoek | b. Joseph lister |
| c. Fleming | d. Louis pastuer |
15. Gram's iodine is a
- | | |
|------------------|--------------------|
| a. Decolorizer | b. Mordant |
| c. Primary stain | d. Secondary Stain |
16. Agar concentration required to prepare nutrient agar is
- | | |
|-------|----------|
| a. 2% | b. 0.25% |
| c. 6% | d. 0.5% |
17. Robertson cooked meat broth is an example of
- | | |
|--------------------|---------------------|
| a. Enriched media | b. Enrichment media |
| c. Anaerobic media | d. Nutrient media |
18. All of the following are examples of enriched media except
- | | |
|-------------------|---------------------------|
| a. Nutrient agar | b. Blood agar |
| c. Chocolate agar | d. Loeffler's serum slope |
19. The term vaccine was coined by
- | | |
|-----------------|------------------|
| a. Robert Koch | b. Louis Pasteur |
| c. Paul Ehrlich | d. Edward Jenner |
20. Who is known as the father of antiseptic surgery?
- | | |
|-----------------|------------------|
| a. Robert Koch | b. Louis Pasteur |
| c. Paul Ehrlich | d. Joseph Lister |

(Descriptive)

Time : 2 hrs. 30 min.

Marks : 50

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

1. Define Sterilization. Explain the process of sterilization 2+8=10

2. Write the principle procedure and interpretation of gram staining 10

3. a. Write the principle of ZN staining 4+6=10
b. Explain bacterial growth curve along with Diagram

4. a. Classify bacterial based on their morphology 6+4=10
b. Discuss shortly about host parasite interaction

5. a. What do you mean by pure culture? Explain the various methods of isolating bacteria in pure culture. 5+5=10
b. List at least five differences between eukaryotic and prokaryotic cells.

6. a. What is anaerobiogenesis? Explain various methods of anaerobiogenesis for cultivation of anaerobic bacteria. Name two aerobic bacteria. 6+4=10
b. Explain Koch postulates.

7. a. What is microscopy? What are the various types of microscopes? Explain the principle of light microscope and electron microscope. 6+4=10
b. Write short note about the contributions of Louis Pasteur and Robert Koch in the development of microbiology.

8. What is culture media? What is the important of culture media in microbiology? Describe the types of culture media in details. 10

= * * * =