2025/12

SET A

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
FIRST SEMESTER
MICROBIOLOGY I
BMLT – 104

[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. Total count of bacteria means
   a. No of living cell
   b. No of death bacteria
   c. Both a & b
   d. None of the above

2. Lipopolysaccharide is a major component of cell in
   a. Gram positive bacteria
   b. Gram negative bacteria
   c. Fungus
   d. Parasite

3. Flash 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. Ethyene oxide
   d. None of the above

5. Which of the following sterilisation conditions are used in Hot air oven?
   a. 121°C, 15 pounds pressure/sq inch, 15 minutes
   b. 140°C, 10 pounds pressure/sq inch, 15 minutes
   c. 160°C, 60 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 but not necessarily spore form is known as
   a. Disinfection
   b. Sterilization
   c. Asepsis
   d. Antiseptic

8. Which of the following culture method is used for Antibiotic sensitivity testing
   a. Steaking culture method
   b. Lawn culture method
   c. Liquid culture method
   d. Strock culture method

9. Bacteria which can grow at temperature below 20 degree known as:
   a. Psychrophiles
   b. Mesophiles
   c. Thermophiles
   d. All of the above

10. Generation time of *E coli* is about:
   a. 20 seconds
   b. 20 hours
   c. 20 minutes
   d. 20 days

11. Light Source in microscope also called as
   a. Condenser
   b. Fine adjustment
   c. Stage
   d. Illuminator

12. Other name of 4X objective lens
   a. High Power
   b. Scanning
   c. Low power
   d. Oil immersion

13. Which of the following culture media is selective, indicator & differential
   a. Nutrient agar
   b. MacConkey Agar
   c. Chocolate agar
   d. Blood agar

14. Father of modern microbiology is
   a. Gilbert
   b. Joshep lister
   c. Fleming
   d. Louis Pasteur

15. Gram's crystal violet is a
   a. Decolurizer
   b. Primary stain
   c. Mordant
   d. Secondary Stain

16. Agar concentration required to broth culture media
   a. 2%
   b. 3-5%
   c. Not required
   d. 0.5%

17. Amies media is an example of
   a. Anaerobic media
   b. liquid media
   c. Semi-solid media
   d. Solid media

18. All of the following are examples of special media except
   a. Nutrient agar
   b. Blood agar
   c. Chocolate agar
   d. MacConkey Agar

19. The process by which an article, surface or medium is made free of all microorganisms either in the vegetative and spore form is known as
   a. Disinfection
   b. Sterilization
   c. Asepsis
   d. Antiseptic

20. To prepare 70% 100 ml ethanol how much distilled water is required
   a. 70 ml
   b. 100 ml
   c. 30 ml
   d. 40 ml

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Descriptive

Time : 2 hrs. 30 mins. Marks : 50

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

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

2. What is culture media? What is the important of culture media in microbiology? Describe the types of culture media in details. 1+2+7 = 10

3. **a.** Write the principle of simple 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 Autoclave.

5. **a.** Discuss briefly about different culture methods. 5+5=10
   b. Explain bacterial cell division and bacterial count.

6. **a.** Discuss factors affecting bacterial growth. 6+4=10
   b. Draw a diagram of cell and level it.

7. What is microscope? Explain the various parts of light compound microscopes along with diagram? 10

8. Write the principle procedure and interpretation of gram staining along with suitable figure. 10

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