REV-01
BMLT/73/36/41

2025/05

SET B

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
FOURTH SEMESTER
MICROBIOLOGY IV
BMLT – 404

[USE OMR SHEET FOR OBJECTIVE PART]

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

Objective **Marks: 20**

Time: 30 min. *1×20=20*

Choose the correct answer from the following:

1. Causative agent of Shanghai fever is
   a. *Salmonella* b. *Pseudomonas aeruginosa*
   c. *E coli* d. *Proteus*

2. In TSI test what does K/ A,Gmeans
   a. Only Glucose is fermented, H_2S produce b. Only Glucose is fermented
   c. All sugar are fermented, H_2S produce d. Only Glucose is fermented, along with gas produce

3. Which of the following bacteria produce yellow colonies on Thiosulphate citrate bile salt agar
   a. *Salmonella* b. *Vibrio*
   c. *E coli* d. *Proteus*

4. Epidermophyton infects
   a. Hair, skin b. Skin , nail
   c. Hair,skin ,nail d. NONE

5. Germ tube test is an identification of
   a. C. albicans b. C. auris
   c. C. krusei d. C. tropicalis

6. Rose Gardener's disease is
   a. Penicillosis b. Histoplasmosis
   c. Sporotrichosis d. Aspergillosis

7. The selective media used for Cryptococococcus neoformans
   a. SDA b. Niger seed agar
   c. Salt milk agar d. Brain Heart Infusion agar

8. In Mycology Indianink dye is use to detect
   a. *Aspergillusfumigates* b. *Cryptococcus neoformans*
   c. *Candida albicans* d. *Penicillumspp*

9. Pseudohyphae seen in
   a. *Candida albicans*
   b. *Histoplasmacapsulatum*
   c. *Sporothrixschenckii*
   d. Both b & c

10. In LPCB, the function of lactic acid is
   a. It prevent fungus from drying
   b. Act as disinfectant
   c. Preserve fungal structure
   d. It stain the fungal structure

11. Cholera vibrio biochemically similar common H antigen present in
   a. Group B
   b. Group D
   c. Group A
   d. Group C

12. Which of the following dermatophyte genus is capable of invading the hair, skin, and nails?
   a. Candida
   b. Epidermophyton
   c. Microsporum
   d. Trichophyton

13. One of the routine microscopic laboratory identification methods of the fungal specimens is done by using
   a. 70% KOH mount
   b. 50% H2O2
   c. 10% KOH
   d. Formalin

14. Culture medium used for fungus is
   a. Sabouraud's medium
   b. Nutrient agar
   c. Nutrient broth
   d. Minimal agar medium

15. The odor of proteus in culture media
   a. Fish
   b. Fruity
   c. Seminal
   d. Both a & c

16. Pyocyanin is secreted by
   a. Streptococcus
   b. Vibrio
   c. Proteus
   d. Pseudomonas

17. Dienes phenomenon seen in
   a. Klebsiella Spp
   b. E coli
   c. Pseudomonas Spp
   d. Proteus Spp

18. Selective media for Salmonella
   a. TCBS
   b. Citrimide agar
   c. MacConkey agar
   d. None of the above

19. MR negative organism
   a. Klebsiella
   b. E coli
   c. Enterobacter
   d. Both a & c

20. Most common organism causing Hospital associated infection
   a. Pseudomonas
   b. Staphylococcus
   c. Streptococci
   d. Klebsiella

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Descriptive

Time : 2 hrs. 30 min. **Marks : 50**

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

1. **a.** Write morphology, pathogenesis, culture characteristics and laboratory diagnosis of Salmonella. **6**

   b. Write short note onclinical significance of pseudomonas infection. Why butt is not required in citrate utilization test. **3+1=4**

2. **a.** Explain the morphology, pathogenesis and laboratory diagnosis and of pseudomonas. **7+3=10**

   b. Write the importance for prevention salmonella infection

3. **a.** Write short note on E coli. **8+2=10**

   b. One positive and negative organism of Indole test.

4. **a.** Explain briefly about Vibrio cholera. **5+5=10**

   b. Write short note AST test.

5. Discuss Candidiasis in details. **10**

6. What are opportunistic infections. Name the diseases under opportunistic infection. Classification of mycology. General Laboratory diagnosis of Mycology. **2+2+2+4=10**

7. Dermatophytes. Explain in details along with diagrams. **10**

8. Cryptococcosis. Explain in details. **10**

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