REV-01
BMLT/01/05

2024/07

SET A

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
FOURTH SEMESTER
MICROBIOLOGY IV
BMLT – 404 [SPECIAL 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. Most common organism causing UTI
   a. E. coli
   b. Staphylococcus
   c. Streptococci
   d. Klebsiella

2. The infective dose of S. typhi is
   a. 1 bacillus
   b. 10^8-10^{10} bacilli
   c. 10^2 -10^5 bacilli
   d. 1-10 bacilli

3. Selective media for Vibrio
   a. TCBS
   b. Stuart
   c. MacConkey agar
   d. MYPA

4. Widal test is carried out to test
   a. Malaria
   b. Diabetes mellitus
   c. HIV/AIDS
   d. Typhoid

5. Pyocyanin is formed by
   a. Streptococcus
   b. Vibrio
   c. Proteus
   d. Pseudomonas

6. Satellitism is seen in culture of
   a. Klebsiella
   b. Hemophilus
   c. Proteus
   d. Salmonella

7. Which of following is the smallest virus?
   a. Smallpox virus
   b. Reo virus
   c. Parvovirus
   d. Adenovirus

8. Electron microscopy can be used for the laboratory diagnosis of
   a. Rotavirus infection
   b. Hepatitis A virus infection
   c. Adenovirus infection
   d. All the above

9. The symmetry of nucleo capsid for pox virus is
   a. Icosahedral
   b. Helical
   c. Complex
   d. None of the above

10. Koplik's spots on the buccal mucosa is a characteristic feature of
    a. Mumps
    b. Measles
    c. Rubella
    d. Hepatitis D virus

11. 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

12. Pseudohyphae seen in
    a. *Candida albicans*
    b. *Histoplasma capsulatum*
    c. *Sporothrix schenckii*
    d. Both b & c

13. In Mycology Negrosin dye is use to detect
    a. *Aspergillus fumigatus*
    b. *Cryptococcus neoformans*
    c. *Candida albicans*
    d. *Penicillium spp*

14. Which of the following dermatophytes is zoophilic
    a. *M. gypseum*
    b. *M. audouinii*
    c. *M. canis*
    d. None of the above

15. Which of the following fungus present predominantly in the faeces of pegion
    a. *Aspergillus fumigatus*
    b. *Cryptococcus neoformans*
    c. *Penicillum spp*
    d. *M. canis*

16. *Cryptococcus neoformans* differentiate from non-pathogenic cryptococci by:
    a. Growth at 37°c
    b. Urea hydrolysis
    c. Production of brown colonies on niger seed agar
    d. All of the above

17. Which of the following infections may occur by *Candida albicans*
    a. Oral thrush
    b. Vulvo vaginitis
    c. Poronychia
    d. All of the above

18. Barber's itch is the other name
    a. Tinea capitis
    b. Tinea corporis
    c. Tinea barbae
    d. Tinea pedis

19. In TSI test what does K/A,H_2S means
    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, gas produce

20. Tryptophan is
    a. Sugar
    b. Amino acid
    c. Lipid
    d. Enzyme

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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 and laboratory diagnosis of Dermatophytes. 8

   b. Give two example of dimorphic fungus. 2

2. **a.** Explain the morphology, cultural characteristics, pathogenesis and laboratory diagnosis of Salmonella. 7

   b. Write a short note on laboratory diagnosis of Proteus spp 3

3. **a.** Explain the morphology, cultural characteristics, pathogenesis and laboratory diagnosis of Vibrio cholera. 7

   b. Explain the laboratory diagnosis of Hemophilus spp. 3

4. **a.** Explain the morphology, cultural characteristics and laboratory diagnosis of E. coli. 6

   b. Explain the various methods of cultivation of virus. 4

5. **a.** Explain the lytic and lysogenic cycle of bacteriophages. 6

   b. Explain the morphology and laboratory diagnosis of polio virus. 4

6. **a.** How many types of hepatitis virus are there? Write their name. 2

   b. Explain the morphology, antigenicity, pathogenicity and laboratory diagnosis of Hepatitis B virus. 8

7. **a.** Write short notes on *Candida albicans*. 6

   b. Discuss about habitat and pathogenesis of Cryptococcus neoformans. 4

8. Classify the fungal diseases. Name the four classes of fungus based on morphology. 7+3=10

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