REV-01
MMB/04/09

2023/06

SET A

M.Sc. MICROBIOLOGY
FOURTH SEMESTER
MEDICAL MICROBIOLOGY
MMB-402 D

[USE OMR SHEET FOR OBJECTIVE PART]

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

(Objective)

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. Which of the following toxin causing botulism is less toxic to human beings?
   a. Type A
   b. Type B
   c. Type C
   d. None of these

2. The staphylococcal intoxication refers to presence of:
   a. An enterotoxin
   b. Neurotoxin
   c. Mycotoxin
   d. All of these

3. A bacterial food intoxication refers to:
   a. Illness caused by presence of pathogens
   b. Food borne illness caused by the presence of a bacterial toxin formed in food
   c. Both a and b
   d. None of the above

4. Which of the following disease is diagnosed by serologic means?
   a. Pulmonary tuberculosis
   b. Gonorrhea
   c. Actinomycosis
   d. QFever

5. The milk streptococci produce acetoin that gets spontaneously oxidized yielding a flavorings agent (responsible for aroma of butter) that is:
   a. Acetone
   b. Acetyl coA
   c. Butyric acid
   d. Diacetyl

6. The *Bacillus* cereus causes gasteroenteritis by the production of an exoenterotoxin which is released in food as a result of:
   a. Cell growth
   b. Cell autolysis
   c. Cell permeation
   d. Cell damage

7. The isolation of gonorrhea-causing organism, Neisseria gonorrhoeae by the use of certain antibiotics in media is an example of which of the following?
   a. Selective media
   b. Differential media
   c. Enriched media
   d. Assay media

8. Beta lactamase positive strains of *Neisseria gonorrhoeae* are highly resistant to tetracycline because:
   a. Beta lactamase production and high-level resistance to tetracycline are both mediated by genes on plasmids
   b. Beta lactamase production and high-level resistance to tetracycline are both mediated by genes on the bacterial chromosome

c. Beta lactamase production is mediated by genes on plasmids and high-level tetracycline is mediated by genes on the bacterial chromosome

d. Beta lactamase production is mediated by genes on the bacterial chromosome and high-level tetracycline is mediated by genes on plasmids

9. Quinolone is a drug which act on the bacteria by:
   a. Inhibiting the protein synthesis
   b. Inhibition of the cell wall
   c. Stops replication
   d. Inhibit the production of folic acid

10. About 10 to 20 percent of young children with the severe meningococcal meningitis develop a syndrome called Waterhouse friderichsen syndrome. Which one of these is not the symptomatic characteristic of this syndrome?
   a. High fever
   b. Hemorrhagic rashes
   c. Circulatory collapse
   d. Disseminated cerebral coagulation

11. Mannitol salt Agar Media is used for the culture of:
   a. Salmonella
   b. Staphylococcus
   c. Nessieria
   d. None

12. Which of the following genus of bacteria causes gastroenteritis in humans?
   a. Salmonella
   b. Enterobacter
   c. Escherichia
   d. Shigella

13. Which of the following genus of bacteria under the family Enterobacteriaceae is mainly associated with plants
   a. Erwinia
   b. Serratia
   c. Proteus
   d. Yersinia

14. The cell wall of gram-positive bacteria may contribute to the development of septic shock. Identify the component which is most associated with the induction of septic shock.
   a. Capsular protein
   b. Endotoxin
   c. Peptidoglycan
   d. Phospholipid

15. Each of the following statements concerning hookworm infection **is correct except**:
   a. Hookworm infection can cause pneumonia
   b. Hookworm infection is acquired by humans when filariform larvae penetrate the skin
   c. Hookworm infection is caused by *Necator americanus*
   d. Hookworm infection can be diagnosed by finding the trophozoite in the stool

16. Which of the following agent is used to prevent Malaria?
   a. Mebendazole
   b. Chloroquine
   c. Inactivated vaccine
   d. Zinc tablet

17. Pigs or dogs are the source of human infection by each of the following parasites except:
   a. *Echinococcus granulosus*
   b. *Taenia soliu*
   c. *Ascaris lumbricoides*
   d. *Trichinella spiralis*

18. Each of the following statements concerning *Trichomonas vaginalis* **is correct except**:
    a. *T. vaginalis* is transmitted sexually
    b. *T. vaginalis* can be diagnosed by visualizing the trophozoite
    c. *T. vaginalis* can be treated effectively with metronidazole
    d. *T. vaginalis* causes bloody diarrhea

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19. Each of the following statements concerning *Giardia lamblia* **is correct except:**
    a. *G. lamblia* has both a trophozoite and cyst stage in its life cycle
    b. *G. lamblia* is transmitted by the fecal oral route from both human and animal sources
    c. *G. lamblia* causes hemolytic anemia
    d. *G. lamblia* can be diagnosed by the string test

20. Mantaux test is done for which disease?
    a. Shigellosis
    b. Traveller's Diarrhoea
    c. Salmonellosis
    d. Tuberculodis

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(Descriptive)

Time : 2 hr. 30 mins. **Marks : 50**

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

1.	Define Toxigenicity. Explain the mode of endocytosis mediated exotoxin in diphtheria.	10
2.	Explain the mode of drug action of: (*Any 2*) **a)** Sulpha drug **b)** Quinolone **c)** 5flucytosin **d)** Penicillin	5+5=10
3.	Write the principle, pathogenicity, symptoms, transmission and treatment of Corynebacterium and Bordetella.	5+5=10
4.	Explain the Host-parasite relationships, Infection, Type and Source of disease. (sources of diseases, reservoirs, transmission of pathogens)	10
5.	Explain one by one, various pathogenic strains of Escherichia coli.	10
6.	What is Anthrax? Explain Morphology, Cultural characteristics and laboratory diagnosis of its causative agent.	10
7.	Explain any two protozoan disease, life cycle, causative agent, symptoms and transmission.	10
8.	Explain the life cycle of Chlamydia and Rickettsia.	5+5=10

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