

Madhya Pradesh Medical Science University, Jabalpur

MBBS Second Professional Examination June-2023

Paper Code- 23BM0000100381

Subject- Microbiology (Old Scheme)

Paper I

Time : 3:00 Hours

Maximum Marks :40

Instructions:

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- a) All questions are compulsory
- b) Draw diagrams wherever necessary
- c) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper.
- d) MCQ has to be answered in theory answer book.
- e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets for example:- 1. (a) 2. (b)
- f) MCQ has to be answered only once, any kind for repetition or cutting or erasing or whitener will be consider as malpractice. Such answers will not be counted in the marks and action will be taken according to CFM rules of University

Q.1 Total MCQs : 16

[16 X ½ = 8]

1. Which of the following is absent in Gram negative bacteria?
 - a. Peptidoglycan
 - b. LPS
 - c. Teichoic acid

d. Porin channels

2. Bacteria are uniformly stained in which of the following phase of growth curve?

- a. Lag phase
- b. Log phase
- c. Stationary phase
- d. Declining phase

3. Food poisoning associated with contaminated fried rice:

- a. Staphylococcus aureus
- b. Bacillus cereus
- c. Clostridium perfringens
- d. Vibrio cholerae

4. How many bacteria must be present in clean-catch, mid-stream urine sample to be considered indicative of infection?

- a. $> 10^2$ CFU/ml
- b. $> 10^3$ CFU/ml
- c. $> 10^4$ CFU/ml
- d. $> 10^5$ CFU/ml

5. Alfa-hemolysis on blood agar is produced by

- a. Strep pyogenes
- b. Staph aureus
- c. Strep pneumoniae

d. Strep agalactiae

6. An organism grows on nutrient agar shows green colored colonies, likely organism is:

- a. Staphylococcus
- b. Streptococcus
- c. Pseudomonas
- d. E. coli

7. Which of the following statement is correct about lepromatous leprosy?

- a. Multibacillary
- b. CMI is normal
- c. Langerhans cells found
- d. Positive lepromin test

8. Gram stain morphology of Bacillus anthracis is

- a. Tennis racket
- b. Drumstick
- c. Spectacle glass
- d. Bamboo stick

9. Mode of transmission of Scrub typhus is by:

- a. Bite of chiggers
- b. Rubbing of tick feces into skin abrasion
- c. Bite of lice
- d. Bite of flea

10. Which culture medium is preferred for processing urine sample?

- a. TCBS
- b. XLD
- c. CLED
- d. DCA

11. The most effective way of preventing tetanus is

- a. Hyperbolic oxygen
- b. Tetanus toxoid
- c. Antibiotics
- d. Surgery

12. All of the following antimicrobial agent acts on cell membrane, EXCEPT:

- a. Gramicidin
- b. Daptomycin
- c. Polymyxin
- d. Vancomycin

13. How much bacillary load in sputum is required for an effective transmission of M. tuberculosis

- a. 10 bacilli/ml
- b. 100 bacilli/ml
- c. 1000 bacilli/ml
- d. 10000 bacilli/ml

14. Scarlet fever is caused by

- a. *S. pyogenes*
- b. *C. diphtheriae*
- c. Str group C and G
- d. *S. viridans*

15. All the above can be given for treatment of MRSA EXCEPT

- a. Meropenem
- b. Vancomycin
- c. Cotrimoxazole
- d. Linezolid

16. Highest useful magnification available in light microscope is-

- a. 100X
- b. 400X
- c. 1000X
- d. 2000X

Q.2. Long Answer Question

2 X 5 = 10

- a. Discuss the morphology, cultural characteristics and pathogenicity of *Mycobacterium tuberculosis*. Add a note on laboratory diagnosis of pulmonary tuberculosis.
- b. Enumerate the methods of transfer of genetic materials in bacteria. Explain the mechanism of any one.

Q3 Short Answer Question

4 X 3 = 12

- a. Autoclave.

- b. Beta hemolytic streptococci.
- c. Antigenic structure of Staphylococcus aureus.
- d. Laboratory diagnosis of Gas gangrene.

Q4 Very Short Answer Question

10X 1 =10

- a. Name four motile bacteria.
- b. Name two high level disinfectants.
- c. Draw a labelled diagram of cell wall of a gram negative bacteria.
- d. Define sterilization and disinfection.
- e. Write any two modes of transmission of infections.
- f. Pasteurization.
- g. List four organisms causing urinary tract infection.
- h. Significant bacteriuria.
- i. Name two transport media used for Vibrio cholera.
- j. Satellitism.
