

**Madhya Pradesh Medical Science University,  
Jabalpur  
MBBS Second Professional Examination Feb-  
2023**

**Subject- Microbiology  
Paper-I (old scheme)**

Maximum Marks:40

- a) All questions are compulsory
- b) Draw diagrams wherever necessary
- c) Answers of Questions and Sub-questions must be written strictly according to 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. (c)
- f) MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice, such answers will not be counted in marks and action will be taken according to UFM rules of university.
- g) Subjective answer should be answered in up to 30 words per marks. For example, if a question having 2 marks should answered in up to 60 marks.

**Q1. Total MCQs: 16**

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$$16 \times 1/2 = 8$$

- 1) Which Microscope is based on the principle that differences in the refractive indices of bacterial cells and the surrounding medium make them clearly visible:
  - (a) Dark Ground microscope
  - (b) Phase contrast microscope
  - (c) Electron microscope
  - (d) Confocal microscope
  
- 2) During which of the following phase bacteria are most susceptible to antibiotics:
  - (a) Lag Phase
  - (b) Log Phase
  - (c) Stationary Phase
  - (d) Phase of decline
  
- 3) Which of the following statement does not apply to ethyl alcohol:
  - (a) it is used mainly as skin antiseptic
  - (b) it acts by denaturing bacterial proteins
  - (c) it is used in concentrations of 60-90% in water
  - (d) it is sporicidal
  
- 4) Acute phase proteins are non specific proteins produced during an infection. Which of those mentioned below is not an acute phase reactants:
  - (a) CRP
  - (b) Heat shock protein
  - (c) Alpha-1 acid glycoprotein
  - (d) Bence-Jones proteins
  
- 5) Which of the following is a pro inflammatory marker:

- (a) IL-4
  - (b) IL-9
  - (c) IL-11
  - (d) IL-17
- 6) Diphtheria toxin has affinity for the following tissue:
- (a) Cardiac muscle
  - (b) Adrenals
  - (c) Nerve endings
  - (d) All of the above
- 7) Which of the following characteristics can differentiate *B. cereus* from *B. anthracis*:
- (a) Non-Capsulated
  - (b) Motile
  - (c) Non susceptible to gamma phage
  - (d) All of the above
- 8) Multidrug resistant tuberculosis (MDR-TB) is due to *M. tuberculosis* strain resistant to:
- (a) Rifampicin only
  - (b) Isoniazid and Rifampicin
  - (c) Isoniazid only
  - (d) None of the above
- 9) Anton test is associated with:
- (a) *L. monocytogenes*
  - (b) *Proteus vulgaris*
  - (c) *E. cloacae*
  - (d) *Hafnia alvei*
- 10) MacConkey's medium with sorbitol instead of lactose

is used for detection of E. coli strains:

- (a) 055
- (b) 015
- (c) 08
- (d) 0157

11) Which one of the following bacteria is included in HACEK group bacteria:

- (a) E. coli
- (b) Enterobacter
- (c) Eikenella corrodens
- (d) Edwardsiella

12) Which of the following bacteria can cause rat bite fever:

- (a) Streptobacillus moniliformis
- (b) L. monocytogenes
- (c) Chromobacterium violaceum
- (d) Flavobacterium meningosepticum

13) Generation time for most of the pathogenic bacteria is:

- (a) 20 sec
- (b) 20 min
- (c) 20 hours
- (d) 20 days

14) Transport medium for Vibrio cholerae is:

- (a) Selenite -F
- (b) Amies
- (c) V-R medium

(d) Stuart's

15) Malta fever is also called as:

- (a) Undulating fever
- (b) Relapsing fever
- (c) Rat bite fever
- (d) Cat scratch fever

16) Which of the following is an example of type I hypersensitivity?

- (a) Lepromin test
- (b) Casoni test
- (c) Tuberculin test
- (d) Arthus reaction

## **Q2. Long Answer Questions**

**2 x 5 = 10**

- a. Discuss in details the structure and functions of bacterial cell wall. Discuss difference in cell wall of gram positive & gram-negative bacteria.
- b. Classify Rickettsia. Write in detail about pathogenesis and lab diagnosis of typhus fever.

## **Q3. Brief Answer Questions**

**4 x 3 = 12**

- a. Laboratory diagnosis of Gas gangrene.
  - b. Heterophile agglutination reactions.
  - c. Drug resistant tuberculosis.
  - d. ~~Monoclonal antibodies.~~
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## Q4. Short Answer Questions

**10 x 1 = 10**

- a. Mention four toxins of *Streptococcus pyogenes*.
- b. Name four zoonotic diseases caused by bacteria.
- c. Satellitism.
- d. Enumerate the primary mediators of anaphylaxis.
- e. Significant bacteriuria.
- f. Why Biological false positive reaction occurs in VDRL test.
- g. Which sugar fermentation test is used for differentiation of Gonococci from Meningococci?
- h. Name the most common causative agent of scrofula.
- i. Enumerate Sterilization controls used for Autoclave.
- j. What is the working principle of Light microscope?

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