

The West Bengal University of Health Sciences
B.Sc. in Medical Microbiology 1st Semester March, 2023
Examination

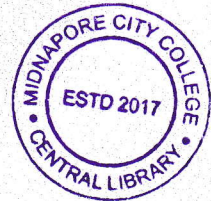
Subject : General Microbiology

Time : 2 hrs.

Full Marks : 50

Attempt all questions

1. Tick the correct answer : 10 x 1
- a) Which of the bacteria is resistant to penicillin as it lacks a cell wall?
 i) Spirochetes. ii) Cyanobacteria. iii) Mycoplasmas. iv) Vibrio.
- b) Which of the following does not contain protein?
 i) Pilli. ii) Flagella. iii) Lipoteichoic acid. iv) Porin.
- c) Lipopolysaccharide in cell walls is characteristic of :
 i) Gram-positive bacteria. ii) Gram-negative bacteria. iii) Fungi. iv) Algae.
- d) Which of the following is / are true about cell wall of Gram-positive bacteria?
 i) Cell wall comprises of many layers.
 ii) The cell wall is thicker than the associated gram-negative bacteria.
 iii) Cell wall comprises of teichoic acids.
 iv) All of the above.
- e) An example of negative staining is :
 i) India Ink preparation. ii) Fontana's staining.
 iii) Gram's staining. iv) Ziehl-Neelsen staining.
- f) The organ of adhesion of bacteria is :
 i) Capsule. ii) Slime. iii) Fimbriae. iv) Flagella.
- g) The best method of skin disinfectant is :
 i) 70% alcohol. ii) Carbolic Acid. iii) Soap & Water. iv) Cetrimide.
- h) In autoclaving, the temperature and pressure and time reached is :
 i) 121°C at 15 lb/in for 15 min. ii) 110°C at 14/5 lb/in for 20 min.
 iii) 115°C at 16 lb/in for 20 min. iv) 116°C at 16 lb/in for 20 min.
- i) A cluster of polar flagella is called :
 i) Lophotrichous. ii) Amphitrichous. iii) Monotrichous. iv) Petritrichous
- j) The cocci which mostly occur in chain are :
 i) Streptococci. ii) Diplococci. iii) Tetracocci. iv) None of these.



2. Answer **any four** of the following questions : 4 x 2
- a) How do flagella work?
- b) Differentiate between pilli and fimbriae.
- c) Define Z value.
- d) Define selective media.
- e) Name two Gram positive and Gram negative bacteria.
- f) State the function of plasma membrane.

P. T. O.

3. Answer **any four** of the following questions : 4 x 4
- a) How do you collect the sample for blood culture?
 - b) Differentiate between endospore and vegetative bacterial cell.
 - c) Why is 70% alcohol more effective than 100% alcohol in microbial killing? State the mode of action of phenol for microbial killing. 2+2
 - d) Discuss the outer membrane of Gram negative bacteria.
 - e) What is tyndallisation? What are the factors affecting the microbial death rate? 1+3
 - f) Define anaerobic media. Write the composition of EMB agar and Nutrient agar. 2+2
4. Answer **any two** of the following questions : 2 x 8
- a) Classify the bacteria based on the location of endospore. Differentiate between Gram positive and Gram negative bacteria. 4+4
 - b) Discuss the principle of Ziehl-Neelsen staining. Why does the Gram negative bacteria lose crystal violet colour after alcohol wash in Gram staining process? 4+4
 - c) Categories of the biomedical waste and their segregation process. 5+3

