



Roll No.

Answer Sheet No. 8

Sig. of Candidate. _____

Sig. of Invigilator. _____

MICROBIOLOGY HSSC-I

SECTION – A (Marks 10)

Time allowed: 10 Minutes

NOTE: Section-A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 10 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

- (i) Which of the statements is **INCORRECT** regarding plasmids?
- A. They are extrachromosomal, double stranded, circular DNA Molecule in microbial cells.
B. They replicate independently of microbial chromosome.
C. They occur in both gram positive and gram negative bacteria.
D. They lack the genes regarding exotoxins produced by the bacteria.
- (ii) Which of the following statements is **INCORRECT** about Bacterial capsule?
- A. It is a determinant of virulence of many bacteria.
B. Streptococcus genus is classified on the basis of antigenic variation in capsular group polysaccharide.
C. Capsular polysaccharides cannot be used as antigens to synthesize vaccine.
D. Capsule may play a role in adherence of bacteria to human tissues.
- (iii) Which of the following statements is **CORRECT** about viruses?
- A. They depend upon host cells to gain ATP.
B. They have Ribosomes.
C. They have RNA or DNA in their nucleus.
D. Hepatitis-C virus is a DNA virus.
- (iv) The culture medium for mycobacterium tuberculosis is _____.
- A. Loeffler's medium B. L.J. medium
C. Blood agar plate D. Chocolate agar plate
- (v) Magnification of oil immersion lense in binocular microscope is _____.
- A. 10 x objective B. 40 x objective C. 100 x objective D. 4 x objective
- (vi) Which of the following is an example of Acidic stain?
- A. Eosine B. Methylene C. Haematoxyline D. Crystal violet
- (vii) Disrupts the cytoplasmic membrane _____.
- A. Lecithinase B. Catalase C. Peroxidase D. Coagulase
- (viii) Which of the following statements is **INCORRECT** about Endotoxins and Exotoxins?
- A. Exotoxins are strong toxins.
B. Exotoxins are weaker antigens.
C. Endotoxins may cause shock on massive antibacterial therapy.
D. Endotoxins and Exotoxins both may be used to produce vaccines.
- (ix) Which of the following is an example of Eukaryote microorganism?
- A. Bacteria B. Fungi C. Virus D. Mycoplasma
- (x) Cell wall is lacking in _____.
- A. Mycoplasma B. Staphylococci C. Mycobacteria D. None of these

For Examiner's use only:

Total Marks:

10

Marks Obtained:



MICROBIOLOGY HSSC-I

86

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2 = 26)

- (i) Write a short note on Bacterial capsule.
- (ii) Write down the principle of chemical stains.
- (iii) Name four gram positive cocci.
- (iv) Name two clostridia along with disease / lesion they produce.
- (v) Name four sterilization devices.
- (vi) Write down the principle of Hot Air Oven.
- (vii) Define Resolution of a microscope. Which lense gives better resolution in Binocular microscope?
- (viii) Which device is used to achieve the best resolution and magnification in microscopic examinations?
What is the principle of working of the device?
- (ix) Draw a labelled diagram of a typical bacterial cell.
- (x) What is Catalase test?
- (xi) Describe briefly the process of virion synthesis in viral reproduction.
- (xii) Describe briefly the Mordants in bacterial staining procedures.
- (xiii) Name different types of Penicillin. What is their principle to kill bacteria in general?
- (xiv) Name four lactose fermenters. How are they indicated on MacConkey's agar plate? Describe briefly.
- (xv) Write a short note on BCG.
- (xvi) What is the principle of Immunoelectrophoresis?
- (xvii) What is the principle of Widal test?

SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 7 = 14)

Q. 3 Write down the principle, procedure and interpretation of coagulase test.

Q. 4 Write down the morphological staining characteristics, biochemical reactions and diagnosis of *Corynebacterium diphtheriae*.

Q. 5 Write down the pathogenesis and serological diagnosis of syphilis.