

03/22

The West Bengal University of Health Sciences
MBBS 2nd Professional Examination, (New Regulation) May 2022

Subject : Microbiology

Paper : I

Full Marks : 100

Time : 3 hours

Attempt all questions. The figures in the margin indicate full marks.

1. a) A 25 year old male patient was brought to the emergency of a hospital with a history of altered sensorium. Patient party gave history of high fever for last 3 days with headache and vomiting. On examination mild hepatosplenomegaly was found. 1+1+3+6+4
 - i) What is your clinical diagnosis ?
 - ii) Name the parasite causing this condition
 - iii) Briefly write about the pathogenesis of this condition
 - iv) How can you establish the etiological diagnosis in the laboratory?
 - v) What are the complications that can occur due to the parasite?
- b) A 40 year old woman comes to the OPD with unexplained fever, severe weight loss of more than 10% and chronic diarrhea of more than 1 month. Her husband, a 48 year old truck driver, gave history of repeated unprotected sexual exposure. 1+1+5+5+3
 - i) What is your probable clinical diagnosis ?
 - ii) Name the causative agent.
 - iii) Write down the laboratory diagnosis for the clinical condition.
 - iv) What are the opportunistic infections, that might develop in a patient with the progress of the disease.
 - v) What is window period in respect to this clinical condition?
2. a) Name some important HAI (Hospital Acquired Infection). How they can be prevented ? 5+5
- b) Define hypersensitivity. Discuss type IV hypersensitivity. Write down the role of complement in hypersensitivity. 2+4+4
- c) What is flagella ? How will you demonstrate it ? 5+5
3. Write short notes on following: 2 x 5
 - a) Koch's postulate.
 - b) Discuss on the respect to be shown to a clinically suspected HIV/AIDS patient for the collection of sample.
4. Explain the following statements: 5 x 4
 - a) Anaphylaxis is an immunological mediated process.
 - b) Significance of blood culture in enteric fever.
 - c) Cell wall of gram positive bacteria differs a lot from that of gram negative bacteria.
 - d) Macconkey agar is a selective and indicator media.
 - e) Halophilic vibrios needs high concentration of salt for their growth.



5. Choose the correct option for each of the following:
- In ELISA technique, the antibodies are labeled by -
 - Acridine orange
 - Alkaline phosphatase
 - Neutral red
 - Bromothymol blue
 - Bacteria having single flagellum attached to each end known as
 - Lophotrichous
 - Monotrichous
 - Peritrichous
 - Amphitrichous
 - Clear-zones formation around antibiotic disc is due to
 - Growth of the bacterium surrounding of the disc
 - Lysis of bacterial cells surrounding the disc
 - The degradation of antibiotic present in paper disc
 - Antibiotic disc has a glowing metallic shine
 - Dengue virus is transmitted from man to man by the
 - Sand fly
 - Ticks
 - Aedes aegypti
 - Culex vishnui
 - Rapid bacterial growth phase is known as
 - Log phase
 - Lag phase
 - Lack phase
 - Quick phase
 - Which of the following is not a policy behind the solid waste management
 - Control of waste generation
 - Disposal
 - Stop waste generation
 - Storage and collection
 - All are molecular techniques in microbiology except-
 - CBNAAT
 - Ligase chain reaction (LCR)
 - Multiplex PCR
 - Vitek - 2 system
 - Which one of the following cytokines can induce fever ?
 - IL-2
 - IL-1
 - IL-4
 - IL-05
 - All of these are antigen presenting cells except -
 - T cells
 - B-cells
 - Dendritic cells
 - Macrophages
 - In widal test rise of TO and AH indicates infection is with
 - Salmonella Typhi
 - Salmonella Paratyphi A
 - Salmonella Paratyphi B
 - Salmonella Paratyphi C