



All India Institute of Medical Sciences, Kalyani

Second Professional MBBS Supplementary Examination (Batch-2020-21)

Time: 3 Hrs.

Microbiology (Paper-I)

Marks: 100

- Answer all questions.
- Answer the questions in the same serial order strictly.
- Illustrate your answers with well labelled diagram wherever necessary.
- Answer each section in a separate answer book.

SECTION - A (50 MARKS)

Long answer question:

[1+3+4+2=10]

1. Read the clinical history and answer the following questions:

Mona, a 27-year-old lady, went on a Mediterranean trip and tested exotic seafood in the form of squids, crabs and lobsters. Within 30 minutes of having the food, Mona developed severe swelling of the face, both lips, and eyelids. Red urticarial wheals developed all over her body. Soon her tongue and neck got swollen. When she was brought to the hospital, her blood pressure had dropped to 60/10 mm Hg, and she was struggling for breath.

- a. What type of hypersensitivity reaction is it?
- b. Enumerate the different chemical mediators involve in the reaction & their biological effects.
- c. Describe the pathogenesis of the said reaction with the labelled diagram.
- d. Which drugs are used for the treatment?

Write Short notes on:

[8X5=40]

2. Steam Sterilization
3. Functions of the antibody molecule
4. Classical pathway of complement system activation
5. Bacterial growth curve
6. Active immunity Vs Passive immunity
7. Bacterial Antibiotic susceptibility testing methods
8. Segregation of Biomedical Waste in different colour-coded bags and containers in a hospital
9. Egg-containing Bacterial Culture media

SECTION – B (50 MARKS)

Long answer question:

[1+2+5+2=10]

1. A 12-year-old boy was brought to the OPD with a history of fever for the last 7 days. He had a loss of appetite, pain in his abdomen and weakness. On examination, he was found to have a temperature of 102°F with relative bradycardia, coated tongue, mild splenomegaly and abdominal tenderness.
 - a. What is the provisional diagnosis?
 - b. Enumerate the causative agents.
 - c. Write about the laboratory diagnosis of this patient.
 - d. How can you prevent the disease?

Write Short notes on:

[8X5=40]

2. Mention the selective media, enrichment media, transport media and pathogenesis of *Vibrio cholerae*
 3. Virulence factors, Pathogenesis, and prevention of Diphtheria
 4. Non-suppurative diseases caused by Group A Streptococcus
 5. Scrub typhus – aetiology, vector, clinical features and complications, laboratory diagnosis, drug of choice
 6. *Helicobacter pylori*
 7. Whooping cough – aetiology, laboratory diagnosis and prophylaxis
 8. Laboratory Diagnosis of Syphilis in different stages of the illness
 9. Melioidosis
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