

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7199

K

Unique Paper Code : 2493010013

Name of the Paper : Molecular Basis of Infections Diseases

Name of the Course : **B.SC. (Hons.) Biochemistry**

Semester : VIII

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. There are 6 questions.
2. Attempt any 4 questions. All questions carry equal marks.
3. Question No. 1 is compulsory.

1A. Define the following:

- i) Nosocomial infections
- ii) Zoonosis
- iii) Viremia
- iv) Reservoir
- v) Rosette formation

B. Explain in brief (any 5)

- i) Antibody enhancement effect
- ii) Toxoid
- iii) Pathogenicity islands
- iv) Koch's postulates
- v) Opportunistic infections
- vi) Neurotropic disease

(5,10)

2A. Differentiate between:

- i) Antigenic shift and antigenic drift
- ii) Montoux test and Montenegro test
- iii) Bacterial and viral pathogenesis
- iv) Salk and Sabin vaccine
- v) Emerging and Re-emerging diseases

(15)

3A. Give the causative agent, characteristic symptoms and diagnostic indicators of the following:

P.T.O.

- i) Rabies
- ii) Diphtheria
- iii) Giardiasis
- iv) Plaque
- v) Tetanus

(15)

4A. Most of the drugs are for the pathways or mechanisms exclusive to the pathogen. Explain by describing an antifungal, antibacterial, antiviral and antiparasitic drug.

B. What are the possible drug targets for controlling HIV replication? Why vaccine prophylaxis for HIV is not successful?

C. What are dane particles?

(8,5,2)

5A. Answer the following:

- a. Why are fungal infections difficult to treat as compared to bacterial infections?
- b. Why flu shot is required every year?

c. Parasite have different forms. What are the factors governing these changes explain with example.

d. Subsequent infection with a different strain of DEN virus might prove to be fatal.

e. A specific pattern of fever and chills is observed in patients of Malaria.

(3,3,3,3,3)

6A. Graphically represent the change in viral load, anti HIV immune responses and total CD4 T-cell count with time during an HIV infection?

B. Describe the role of the following in bacteria/viral pathogenesis:

- a. gp120 and gp41
- b. Lipopolysaccharides
- c. Mycolic Acid

C. Describe the vaccines used to prevent Covid infection.

(5,6,4)