

- (b) Explain the transmission cycle of Chikungunya, highlighting the role of mosquitoes and the factors that influence its spread. (8)
5. (a) Discuss the bacterial pathogens transmitted through contaminated water that you have studied. (7)
- (b) What methods are used to test for microorganisms in water to monitor its quality? (8)
6. (a) Describe the mode of infection, clinical features, epidemiology, and preventive measures for leishmaniasis (10)
- (b) Briefly discuss the clinical features of Schistosomiasis. (5)
7. Write short notes on **any three** of the following : (15)
- (a) Biosensors
- (b) Giardiasis
- (c) Pyro-sequencing
- (d) Botulism

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4856

J

Unique Paper Code : 2234002003

Name of the Paper : GE : Water-borne Diseases:
Understanding and Management

Name of the Course : GE – Zoology

Semester : IV (NEP-UGCF)

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. Attempt any **four** questions including Question No. 1 which is compulsory.
3. Draw well-labelled diagrams wherever necessary.

1. (a) Define the following (**any four**) : (4)

(i) Incubation Period

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(ii) Epidemiology

(iii) Health Indicators

(iv) Vector

(v) Public Health Hazard

(b) Differentiate between the following (**any two**) :
(4)

(i) Health and disease

(ii) Epidemic and endemic diseases

(iii) Point source pollution and non-point source pollution

(c) Outline the role played by agencies and NGOs in managing and controlling the following diseases (**any two**) :
(4)

(i) Cholera

(ii) Rotavirus

(iii) Malaria

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(d) Expand the following (**any three**) : (3)

(i) qPCR

(ii) FISH

(iii) RIA

(iv) ELISA

2. (a) Illustrate and explain the definitions of any five common water quality terms. (5)

(b) Discuss in detail two common drinking water contaminants associated with waterborne diseases. (5)

(c) What are the WHO's key recommendations and policies regarding WASH? (5)

3. (a) Provide an overview of the epidemiological patterns and complications of Typhoid fever. (7)

(b) What are the modes of transmission, diagnostic techniques, treatment options, and prophylaxis for typhoid fever? (8)

4. (a) Describe the dengue virus, its structure, and the different serotypes that cause dengue fever. (7)

P.T.O.