

**NRT/KS/19/2065**

**Bachelor of Science (B.Sc.) Semester–II Examination**  
**ENVIRONMENTAL SCIENCE (Introduction to Water and Soil Chemistry)**

**Optional Paper–1**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) All questions are compulsory and carry equal marks.

(2) Illustrate your answer with suitable examples and diagrams.

1. What is the necessity of water sampling ? Explain the collection of samples and its preservation. 10

**OR**

(a) Express your views on degradation of water quality due to agricultural discharges. 5

(b) Discuss the criteria for selection of sampling site for water sampling. 5

2. What is DO ? Explain its principle. Why it is important parameter of water quality ? 10

**OR**

(a) What are the different types of methods for chloride estimation ? Discuss argentometric method with chemical reactions. 5

(b) Discuss the chemistry of hardness, bringing out clearly the classification of hardness. 5

3. Describe the process of weathering of rocks and its formation. 10

**OR**

(a) Give the types of soil in India. 5

(b) What is the importance of soil ? Add a note on role of soil organisms. 5

4. Define soil erosion. Discuss the agencies causing soil erosion. 10

**OR**

(a) What are the objectives of soil conservation ? 5

(b) Suggest the control measures for soil erosion. 5

5. Write in brief (any **ten**) :

(a) Define hydrosphere.

(b) Which precautions should be taken after collection of water samples before analysis ?

(c) What are toxic metals ?

(d) Mention the disease in children, which is caused by excessive fluorides in drinking water.

(e) Which cations are responsible for causing hardness ?

(f) Why pH is important parameter in water quality ?

(g) State the composition of soil.

(h) Name the factors affecting soil formation.

(i) What are the characteristics of sandy soils ?

(j) What are the functions of humus ?

(k) Name any three factors responsible for soil degradation.

(l) Write the full form of NWDB.

1×10=10