

**Bachelor of Science (B.Sc.) Semester—II (C.B.S.) Examination**

**ENVIRONMENTAL SCIENCE**

**(Introduction to Water and Soil Chemistry)**

**Compulsory 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 example and diagram.

1. What is hydrosphere ? Discuss the chemical composition of surface and ground water and their characteristics. 10

**OR**

- (a) What is the necessity of water sampling ? 5  
 (b) How do you select lake water sampling locations ? 5

2. Explain the physical parameters for assessment of water analysis. 10

**OR**

- (a) What is the difference between hard and soft water ? 5  
 (b) Excess concentrations of fluoride ions in drinking water are harmful for public health, why ? 5

3. Discuss an account of soil profile indicating soil horizons with diagram. 10

**OR**

- (a) Give classification of soil on the basis of mode of formation. 5  
 (b) Define cation exchange capacity of soil. Add a note on its significance. 5

4. Define soil erosion. Explain the various factors causing erosion of soil. 10

**OR**

- (a) Discuss in brief biological methods of soil conservation. 5  
 (b) Explain the various causes of soil degradation. 5

5. Write in brief (any ten) :

- (a) What is the chemical composition of seawater ?  
 (b) Define composite water samples.  
 (c) Define toxic metals.  
 (d) Distinguish between suspended and dissolved solids.  
 (e) Explain the principle involved in the estimation of chlorides.  
 (f) What is the prescribed standard of dissolved oxygen in drinking water ?  
 (g) Define soil. What are the components of soil ?  
 (h) Explain the factors affecting soil formation.  
 (i) Name the different types of rocks.  
 (j) Name the biotic agencies responsible for soil erosion.  
 (k) Define soil fertility.  
 (l) What is the long form of NWDB ? 1×10=10