

Bachelor of Science (B.Sc.) Semester—III (C.B.S.) Examination
ENVIRONMENTAL SCIENCE
Paper—II
(Environmental Microbiology and Water Treatment)

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory.
(2) All questions carry equal marks.
(3) Illustrate your answers with suitable diagrams.

1. Discuss sources of microorganisms in air. What are their harmful effects on human beings ? 10

OR

(a) Write elaborative note on rural water supply. 5
(b) What is the significance of bacteriological analysis of water ? 5
2. Discuss the method of water distribution system. What are their merits and demerits ? 10

OR

(a) Write a brief note on detection, and prevention of leakages of water. 5
(b) Describe the principles of Sanitation. Add a note on Low Cost Sanitation. 5
3. Discuss process of Coagulation and Flocculation in water treatment. 10

OR

(a) Explain the design features of Slow Sand Filter. 5
(b) Describe the role of ozone as disinfectant. 5
4. Discuss in brief the Zeolite process of water treatment, with a neat sketch. 10

OR

(a) Write a note on reverse osmosis process. 5
(b) Discuss the quality requirement of packaged drinking mineral water. 5

5. Attempt any **TEN** questions :—

- (i) What are Aeroallergens ?
- (ii) Mention the microflora present in soil.
- (iii) Write a standard of drinking water with respect to chloride.
- (iv) What are the symptoms of Fluorosis ?
- (v) Mention various water borne diseases.
- (vi) What is Emphysema ?
- (vii) What is significance of Aeration ?
- (viii) Distinguish between slow and rapid sand filters.
- (ix) What is disinfectant ?
- (x) Mention the types of hardness.
- (xi) What is the need for removal of Fluoride in water ?
- (xii) What is a brackish water ?

$1 \times 10 = 10$