

**Bachelor of Science (B.Sc.) Semester—VI (C.B.S.) Examination**  
**WATER SUPPLY AND WASTE WATER TREATMENT**  
**Paper—2**  
**(Environmental Science)**

Time : Three Hours]

[Maximum Marks : 50]

**N.B. :—** (1) All questions are compulsory and carry equal marks.  
(2) illustrate your answers with suitable examples and diagrams.

1. Bring out the differences between Grid Iron System and Radial System of Distribution Systems. What are their merits and demerits ? 10

**OR**

(a) How do you detect and prevent Leakages in Distribution Systems ? 5  
(b) Explaining the significance of Environmental Sanitation, highlight the existing scenario. 5

2. Distinguish clearly between Bar Screens and Fine Screens with the help of sketches. Where do you prefer cutting screens and why ? 10

**OR**

(a) Distinguish with the help of neat sketches Aerated and Plain Grit Chambers. 5  
(b) How do you Select Grit Chamber for a particular Industry ? 5

3. Why Biological waste treatment is required ? Explain the role of Trickling filter. Mention their applications, listing their disadvantages. 10

**OR**

(a) Explain the tertiary treatment of waste water using Electrolysis. 5  
(b) Write a sketch of Sludge Handling Treatment System with a brief explanation on need for sludge disposal. 5

4. Discuss the Nature and Origin of pollutants from Textile Industry. What is the impact of Textile Industrial Waste on water environment ? 10

**OR**

(a) Draw a Flow chart of waste water treatment for Leather Industry. 5  
(b) How do you select an appropriate unit operation for an Industrial waste ? 5

5. Attempt any **ten** :

- (a) Design Considerations of Distribution System.
- (b) Topographical considerations for Water Distribution System.
- (c) What is a displacement pump ?
- (d) What is Flocculation ?
- (e) What is self cleaning velocity ?
- (f) Define “Sedimentation”.
- (g) What is “Reverse Osmosis” ?
- (h) What is the composition of Sludge ?
- (i) Define the term “Up-Flow Reactor”.
- (j) What is a polymer ?
- (k) Dairy Industrial Waste water Characteristics.
- (l) Why plastic is nuisance ?

$1 \times 10 = 10$