

**Bachelor of Science B.Sc. Semester–VI Examination  
WATER SUPPLY AND WASTE WATER TREATMENT**

**Optional Paper–2  
Environmental Science**

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 do you understand by continuous and intermittent supply system of water ? Compare both in respect of their advantages and disadvantages. 10

**OR**

- (a) Discuss in short different types of distribution system. 5  
 (b) State the methods for rural sanitation. 5
2. What are the objectives of disinfection of water ? Mention any two different disinfectants and state their characteristics. 10

**OR**

- (a) Explain the theory of filtration. 5  
 (b) What is the purpose of preliminary treatment of waste water ? How is grit disposed of ? 5
3. Discuss with the help of neat sketch the working of a standard trickling filter for purification of waste water. Write the biological changes that take place in the filter bed. 10

**OR**

- (a) Explain the process of ion exchange. When it is preferred ? 5  
 (b) What is the activated carbon ? How is it obtained ? 5
4. Discuss the important characteristics of waste water from textile industry. What are the effects and suggest treatment options ? 10

**OR**

- (a) Write an informative note on Recycling technique of plastic. 5  
 (b) Explain with a flow diagram various operations of leather industry. 5
5. Attempt any ten :
- (a) What is the function of hydrants in the distribution system ?  
 (b) Explain the role of pressure relief valve.  
 (c) How pumps are classified ?  
 (d) What are the design consideration for a septic tank ?  
 (e) Name any three disinfectants.  
 (f) Give the names of common types of coagulant used.  
 (g) What are the applications of activated carbon ?  
 (h) Explain any one method of sludge disposal.  
 (i) Define Adsorption.  
 (j) Give examples of low cost waste treatment.  
 (k) How plastic is biodegraded ?  
 (l) What are the impacts of discharge of untreated industrial waste water on water quality ?  $1 \times 10 = 10$