

**K-792**

Total Pages : 3

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## **ESC-608**

### **Water and Waste water Treatment Technologies-II**

M.Sc. Environmental Science (MSCES)

4th Semester Examination, 2023 (Dec.)

**Time : 2 Hours]**

**[Max. Marks : 35**

**Note :** This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

### **SECTION–A**

#### **(Long Answer Type Questions)**

**Note :** Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

(2×9½=19)

1. What is the purpose of treating wastewater? Describe the key components and physical processes involved in primary wastewater treatment?
2. What are the common impurities and pollutants found in wastewater that require removal during the treatment?
3. Explain the significance of sludge management and proper disposal in wastewater treatment operations.
4. Describe low-cost treatment technologies for various types of waste, including wastewater, solid waste, and hazardous waste.
5. What are the main characteristics and challenges in treating industrial wastewater from the chemical industry?

**SECTION-B**  
**(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Difference between primary wastewater treatment and secondary wastewater treatment.
2. Describe the concept of sludge recycling.

3. Discuss the circular economy principles.
  4. Describe the key objectives of adopting cleaner technologies.
  5. What is an industrial waste audit? What are the main steps involved in performing an industrial waste audit?
  6. Why is odor removal important in treatment processes?
  7. What are the primary objectives of experimental studies in biological waste treatment?
  8. Explain the role of microorganisms in breaking down organic matter and pollutants in wastewater.
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