

# P-516

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## ESC-608

### Water and Waste Water Treatment Technologies–II

M.Sc. Environmental Science (MSCES)

4th Semester Examination, 2023 (June)

**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 answer 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. Explain in detail about the self-purification in a stream.

2. Discuss the activated sludge process and design consideration in detail.
3. Describe in detail about the anaerobic digestion of sludge.
4. What are the stabilization ponds? Discuss its process design consideration in detail.
5. Discuss in detail about the treatment technologies for removal of colour.

## **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. Explain the extended aeration process in detail.
2. Describe the treatment process of industrial waste in detail.
3. Discuss the characteristics of waste water in detail.
4. Explain the oxidation ditches in brief.
5. Write a brief account of sand drying beds.

6. Discuss the nitrification process in detail.
  7. Explain the removal process of phosphate.
  8. Explain the waste treatment process of textile industries.
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