

A-583

Total Pages : 3

Roll No. -----

ESC-603

Water and Waste Water Treatment Technologies-I

M.Sc. Environmental Science (MSCES)

3rd Semester, Examination 2024 (June)

Time: 2:00 hrs

Max. Marks: 35

Note : This paper is of Thirty five (35) marks divided into Two (02) Section A and B. Attempt the questions contained in these sections according to the detailed 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 (9.5) marks each. Learners are required to answer any Two (02) questions only.

[2x9.5=19]

P.T.O.

- Q.1. Explain the concept of "reduce, reuse, recycle" and its significance in achieving sustainable waste management.
- Q.2. Explain the difference between physical, chemical, and biological parameters in water quality analysis?
- Q.3. What are the key parameters and methods used to measure dissolved oxygen and BOD in water? Explain the advantages and disadvantages of extended aeration systems in wastewater treatment plants?
- Q.4. What are the common methods of solid waste disposal, including landfilling, incineration, and waste-to-energy facilities?
- Q.5. Discuss in detail about the primary and secondary sewage treatments. Also discuss their advantages and disadvantages in detail.

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.

[4x4=16]

- Q.1. Discuss the factors that affect the quality and quantity of surface water?

- Q.2. Explain the point and non-point source of water pollution?
- Q.3. Discuss the primary objectives of rapid sand filtration?
- Q.4. What is sewage, and how does it differ from wastewater?
- Q.5. What is aeration in the context of water treatment?
- Q.6. Discuss the significance of water temperature as a key parameter in understanding aquatic ecosystems and water quality.
- Q.7. What are the potential risks and vulnerabilities associated with surface water contamination?
- Q.8. Explain the importance of integrated water resource management (IWRM)?
