

**A-577**

Total Pages : 3

Roll No. ....

**EVS-604**

**CLEAN TECHNOLOGIES**

**M.Sc. Environmental Science (MSCES)**

3rd Semester Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

**Note :-** This paper is of Seventy (70) 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**      2×19=38

**Note :-** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. What is sustainable sanitation ? Discuss the sustainability criteria which need to be considered when improving on existing or designing a new sanitation system.

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2. What is *ex-situ* remediation ? Discuss in detail the various kinds of *ex-situ* remediation technologies in detail.
3. What is Sludge ? Describe the process of sludge management.
4. Write an extended note on impacts of solid waste.
5. What are the various hazardous waste treatment technologies ? Discuss either physical treatment technologies or chemical treatment technologies in detail.

### **Section–B**

#### **Short Answer Type Questions**      4×8=32

**Note** :- Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. What are the problems faced by developing countries in respect of transfer of technologies ? Discuss.
2. Define Bioremediation. Discuss *in-situ* physical and chemical remediation.
3. Briefly discuss the risk assessment of contaminated sites.
4. Discuss preliminary treatment of waste water.
5. Write a short note on "storage and segregation of solid waste at source".

6. What is preliminary treatment of waste water ? Discuss in brief.
7. Write a brief note on "treatment of human excreta".
8. What is "Grey water" ? Briefly discuss its characteristics.

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