

K-786

Total Pages : 3

Roll No.

EVS-604

CLEAN TECHNOLOGIES

M.Sc. Environmental Science (MSCES)

3rd Semester Examination, 2023 (Dec.)

Time : 2 Hours]

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)

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.

(2×19=38)

1. What is cleaner production ? Discuss various types of cleaner production options. Also discuss the importance of cleaner production with respect to sustainable development, quality and safety.
2. What is remediation? Discuss *ex-situ* remediation in detail.
3. Write an extended note on "advance treatments of waste water".
4. Write an extended note on "solid waste and its management".
5. What do you understand by hazardous waste? Discuss in detail the sources and characteristics of hazardous wastes.

SECTION-B

(Short Answer Type Questions)

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. (4×8=32)

1. Write a short note on "Technologies for sustainable development".
2. What is bioremediation ? Discuss *in-situ* bioremediation.
3. What is meant by contaminated site characterization? Discuss in brief.

4. Briefly discuss remediation methods for soil and groundwater.
 5. Write a short note on biodegradable and non-biodegradable waste.
 6. Briefly discuss "advantages of recycling and reuse of solid waste" and also enlist important recyclable materials.
 7. What is "ECOSAN"? Discuss its importance in brief
 8. Briefly discuss recycling of nutrients giving emphasis on nutrients in human excreta.
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