

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

SEM4014

M.Sc. (IVth Semester) Examination, 2021

ENVIRONMENTAL SCIENCE

Paper - ES-403 (B)

(Waste Management)

Time : 1½ Hours]

[Maximum Marks : 40

Note :- The question paper contains three Sections.

Section-A

(Marks : 1 × 10 = 10)

Note :- Answer all the *ten* questions carries 1 mark each. The answer should not exceed 50 words.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer *five* questions by selecting at least *one* question from each Unit. Each question carries 3 marks. Answer should not exceed 200 words.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer *three* questions by selecting *one* question from each Unit. Each question carries 5 marks. The answer should not exceed 500 words.

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(1)

SEM4014 P.T.O.

Section–A

1. Attempt all questions. Answer should not exceed **50** words in each question.
 - (i) What do you mean by waste generation rate ?
 - (ii) What is inert waste ?
 - (iii) What is the typical moisture content of municipal solid waste ?
 - (iv) What is the capacity of small transfer station ?
 - (v) What is the difference between incineration and pyrolysis ?
 - (vi) Write the waste management hierarchy.
 - (vii) If you recycle 1 ton of paper, how many trees can you save ?
 - (viii) Anatomical waste is collected in which colour plastic bag.
 - (ix) What is the percentage of methane in Biogas ?
 - (x) How many times can glass be recycled ?

Section–B

Unit–I

2. Give classification of solid waste.
3. What are the factors affecting generation of solid waste ? Explain.
4. What is proximate analysis of solid waste ?

Unit–II

5. Explain municipal solid waste collection methods.
6. What is waste processing ? Describe in brief.
7. Write the differences between composting and vermicomposting.

Unit–III

8. What is hazardous waste ? Give its classification.
9. Write the sources of industrial wastes.
10. Write a short note on electronic waste.

Section–C

Unit–I

11. Describe the composition, quantity, sampling and characteristics of waste in detail.
12. Explain the techniques of waste generation rate estimation.

Unit–II

13. Explain solid waste disposal methods in detail.
14. Give a note on electrical energy generation from solid waste.

Unit–III

15. What is fly ash ? Write about the sources, composition and utilization of fly ash in detail.
16. Explain the present scenario of municipal solid waste in India with emphasis on management practices of it.