

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

SEM2009

M.Sc. (IInd Semester) Examination, 2021

ENVIRONMENTAL SCIENCE

Paper - ES-201

(Environmental Monitoring)

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 carry 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. Answers 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.

Section-A

1. Attempt all questions. Answer should not exceed 50 words in each question.

- (i) Write the full form of HPLC.
- (ii) Give definition of Gravimetry.

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- (iii) Write the principle of Titrimetry.
- (iv) Define Environmental Systems Analysis (ESA).
- (v) Write instruments which are used in radiation monitoring.
- (vi) Give definition of Fecal Indicator.
- (vii) Write definition of Probability.
- (viii) What is Multiple Regression Model ?
- (ix) What does Leslie Matrix Model ? Describe.
- (x) What do you mean by Statistical Analysis ?

Section-B

Note :- Answer *five* questions in about **200** words, by selecting at least *one* question from each Unit. Each question carries 3 marks.

Unit-I

- 2. Write the principle of Electrophoresis.
- 3. Write the application of Spectrophotometry in Environmental Monitoring.
- 4. What is the difference between X-ray fluorescence and X-ray diffraction method ?

Unit-II

- 5. Write the principle of soil sampling.
- 6. Describe the air sampling methods.
- 7. Why do we prefer monitoring of Environment ?

Unit-III

- 8. Differentiate Arithmetic Mean, Geometric Mean and Harmonic Mean.
- 9. Explain tests of hypothesis and its significance.
- 10. Describe Poisson Distribution.

Section–C

Note :- Answer *three* question in this Section, by selecting *one* question from each Unit in about **500** words. Each question carries 5 marks.

Unit–I

11. What do you mean by AAS ? Write the principle of it. Give a detailed account on its application in Environmental Monitoring.
12. Explain Gas chromatography in detail.

Unit–II

13. Give a detailed note on water sampling procedures.
14. What are the microbiological parameters for water monitoring ? Explain the analytical methods of these parameters.

Unit–III

15. What is Gaussian Plume Model ? Describe about the model, its significance and application.
16. Explain Lotka-Volterra Model.