

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

SEM-3009

M.Sc. (IIIrd Semester) Examination, 2022

ENVIRONMENTAL SCIENCE

Paper - ESCC-301

(Environmental Technology)

Time : 3 Hours]

[Maximum Marks : 40

Section-A

(Marks : 1 × 10 = 10)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries 1 mark.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer any *five* questions by selecting at least *one* question from each Unit (Answer limit **200** words). Each question carries **3** marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions by selecting *one* question from each Unit (Answer limit **500** words). Each question carries **5** marks.

Section-A

1. (i) What is Fugitive Emission Monitoring ?
- (ii) Write the assumptions of Gaussian Dispersion Model.

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- (iii) Define Lofting Plume.
- (iv) What is isokinetic condition ?
- (v) Define Ventilation Coefficient.
- (vi) What do you mean by Wind profile exponent (p) ?
- (vii) What is Crankcase emission ?
- (viii) Write the steps of drinking water treatment procedure.
- (ix) Write the names of different types of fermentation.
- (x) What does 'B100' stand for ?

Section-B

Unit-I

- 2. Write the characteristic features of atmospheric particles.
- 3. What is Lapse rate ? How does it play role in pollutant dispersion ?
- 4. Write the objectives of Air Quality Monitoring (AQM) Programmes.

Unit-II

- 5. Write a short note on Venturi Scrubber.
- 6. Give classification of Mobile Source Emissions. Name the control technologies of mobile source emissions.
- 7. Explain the factors influencing automobile exhaust emissions.

Unit-III

- 8. Write the principle of advanced oxidation.
- 9. Draw a flow chart of different fermented products by Glucose.
- 10. What is Biofuel ? Explain its types.

Section-C

Unit-I

11. Write the background information required for air pollution monitoring. Explain different components of air monitoring.
12. Write a note on dispersion of air pollutants.

Unit-II

13. Explain the control methods of gaseous pollutants.
14. Describe control equipments for particulate matter in detail.

Unit-III

15. Explain various disinfection mechanisms of water treatment.
16. What is Bioremediation ? Explain its types, advantages and disadvantages in detail.