

Roll No. :

Total No. of Questions : 16]

[Total No. of Printed Pages : 3

CENV-311

M.Sc. (IIIrd Semester) Examination, Jan.-2023

ENVIRONMENTAL SCIENCE

Paper - FS-ENV-CC-301

(Environmental Technology)

Time : 3 Hours]

[Maximum Marks : 40

The question paper contains three Sections.

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 do you mean by ambient air quality monitoring ?
- (ii) What is the method for NO₂ measurement in ambient air ?

BRI-948

(1)

CENV-311 P.T.O.

- (iii) Give definition of atmospheric stability.
- (iv) What is Environmental lapse rate ?
- (v) What is Flue Gas Desulfurization (FGD) ?
- (vi) Give classification of mobile source emission.
- (vii) Define Selective Catalytic Reduction (SCR).
- (viii) What is Reverse Sand filter ?
- (ix) What is Biogas ?
- (x) Define Ultrafiltration.

Section-B

Unit-I

- 2. What is the scope, purpose and objectives of air quality programmes ?
- 3. How is effective stack height calculated ?
- 4. Write a short note on maximum mixing depth.

Unit-II

- 5. Give a note on automobile exhausta.
- 6. Write a short note on electrostatic precipitator.
- 7. How fabric filter equipment is used to control particular matter ?

Unit-III

- 8. Give the principle of chemical oxidation.
- 9. Write the ozone disinfection mechanism of cleaning water.
- 10. Describe fermentation technology.

Section-C

Unit-I

- 11. Give a detailed note on 'Principles and instruments' for sampling and measurement of ambient air pollutants.

12. How does dispersion of pollutants take place in atmosphere ? Explain with Gaussian–Plume model.

Unit–II

13. Elaborate control methods of gaseous air pollutants.
14. Explain a case study of thermal power plant with control methods of gaseous and PM pollutants.

Unit–III

15. Describe drinking water treatment procedures by using flow chart.
16. What is Bioremediation ? Discuss various types of bioremediation with advantages and disadvantages.