

(Choice Based)  
Analytical Chemistry.

Q.P. Code :05444

[Time: 2 ½ Hours]

III  
[ Marks:60]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
  2. Use of log table/non-programmable calculator is allowed.

Q.1 A) Answer any two of the following:- 08

- i) Explain the sampling methods for the stack gases.
- ii) Discuss the quality standards for the potable water.
- iii) What are ill-effects of particulate matter as air pollutants?
- iv) Discuss the different methods of the pollution control for the automobile exhausts.

B) What are sources of water pollution? Explain the basic chemistry in aquatic environment. 04

OR

B) Discuss the environmental impact of oxides of Sulphur and Nitrogen as air pollutants. 04

Q.2 A) Answer any two of the following:- 08

- i) Explain the concept carbon credit and its trade?
- ii) Discuss the direct and indirect sources of pollutants with reference to potable water reservoir.
- iii) Explain the water purification process before distribution to residential area?
- iv) How is ammonia estimated from gaseous effluents?

B) What is water hardness? How it is estimated? 04

OR

B) "Bore-well water is not suitable for the drinking purpose without treatment." Elaborate the statement. 04

Q.3 A) Answer any two of the following: - 08

- i) Explain the constitutional provisions for the safeguarding the environment.
- ii) What is soil pollution? Explain its effect on water holding capacity of soil.
- iii) Define Allergy. Explain the role of pollutants as allergens.
- iv) What is thermal pollution? Explain any one method for reduction of thermal pollution.

B) State sources of radioactive pollution. Explain any one method for safe disposal of radioactive waste. 04

OR

B) What is environmental audit? Explain its Benefits. 04

TURN OVER

Q.4 A) Answer any two of the following:-

08

- i) Define (a) calorific value (b) flash point. What is significance of Carbon Residue in the petroleum fuels?
- ii) Explain the chromatographic methods for the organochlorine pesticide residue analysis.
- iii) What the role of (a) Builders and (b) Complexing and Dispersing Agents in detergents.
- iv) Give the importance of the Biodegradation of Insecticides and Pesticides.

B) Discuss the classification of pesticides according to toxicity.

04

OR

B) What are the different fractions obtained from fractional distillation of crude oil?

04

Q.5 Answer any four of the following: -

12

- i) Write a note on Water softening process.
  - ii) Discuss the two phase titration for determination of ionic surfactants.
  - iii) Write note on ambient air quality.
  - iv) Explain the role of Central pollution control Board in the pollution monitoring.
  - v) What is the impact of the pesticide residue on the human health?
  - vi) State properties of ideal fuel.
  - vii) Explain the documentation procedure to be accomplished in mineral water industry.
  - viii) Write a short note on Global warming.
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