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Raji
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M.Sc. DEGREE II SEMESTER EXAMINATION IN
ENVIRONMENTAL TECHNOLOGY
AUGUST 2002

CHEMICAL METHODS IN ENVIRONMENTAL ANALYSIS

Time : 3 Hours Maximum marks: 50

PART - A

(Answer ***ANY FIVE*** questions)
(All questions carry ***EQUAL*** marks)

(5 x 2 = 10)

I. 1. State and explain Beer-Lambert Law.
2. How the fluoride content of a water sample is determined using ion selective electrode?
3. Describe the method of determining potassium in a water sample by flame photometry.
4. What are the sources of SO_x pollution?
5. What do you understand by pE?
6. What do you mean by single electrode potential?

PART - B

(Answer ***ANY FIVE*** questions)
(All questions carry ***EQUAL*** marks)

(5 x 3 = 15)

II. Describe the dithizone method of estimating cadmium in a water sample.

III. Describe the working of a GM counter.

IV. Explain the electrostatic precipitation method of particulate sampling.

V. Give a schematic diagram of a double-beam spectrophotometer. What are its advantages over a single-beam instrument?

VI. Describe the absorption method of collecting an air sample for the analysis of pollutant gases and vapours.

VII. Explain the terms DO, BOD and COD

PART - C

(Answer *ANY FIVE* questions)
(All questions carry *EQUAL* marks)

(5 x 5 = 25)

VIII. Write a note on sampling procedures for wastewater analysis.

IX. Write a note on desulphurization of flue gases.

X. Briefly illustrate wastewater treatment by Activated Sludge Process.

XI. Mention any five toxic elements found in wastewater and indicate their sources and harmful effects.

XII. Define hardness of water. What is its unit? Describe a method of determining the hardness of a water sample.

XIII. Describe the working of Atomic Absorption Spectrophotometer.

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