

**M.Sc. DEGREE I SEMESTER EXAMINATION IN
ENVIRONMENTAL TECHNOLOGY
JANUARY 2003**

CHEMISTRY OF THE ENVIRONMENT

Time : 3 Hours

Maximum Marks: 50

PART - A

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

(5 x 2 = 10)

- I. (1) Write short note on atmospheric hydrocarbons.
- (2) Which factors affect the soil formation?
- (3) Write the hydrological cycle.
- (4) What is meant by mobilisation of elements? Explain.
- (5) Write short note on tracer applications of radio active elements.
- (6) Give a brief note on evolution of earth's atmosphere.

PART - B

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

(5 x 3 = 15)

- II. What are the sources of sulphur oxides and give their corresponding chemical reactions?
- III. Give few examples of silicate ores with formulae and mention principal metals in that ores.
- IV. Discuss about solubility of solids in water.
- V. Write note on nucleosynthesis of elements.
- VI. What is meant by radio activity and briefly discuss the kinds of radiations?
- VII. Distinguish the effect of alpha, beta and gamma reactions on gasses.

(Turn Over)

PART - C

(Answer **ANY FIVE** questions)

(All questions carry **EQUAL** marks)

(5 x 5 = 25)

- VIII. Explain the chemical and photochemical reactions of oxides of nitrogen in the atmosphere.
- IX. Describe the formation of soil and its composition.
- X. Discuss the characteristics of potable water.
- XI. Describe the sources and speciation of mercury in the environment.
- XII. (a) How is Co-60nuclide produced? What is its application in medicine.
(b) What is the best way of disposing radioactive wastes?
- XIII. Define the term 'soil horizon'. Briefly describe the fact of organic detritus in the soil horizon.