M. Sc. DEGREE I SEMESTER EXAMINATION IN
ENVIRONMENTAL TECHNOLOGY
APRIL 2000

CHEMISTRY OF ENVIRONMENT

Time : 3 Hours. Maximum Marks : 50

PART - A

(Answer *any five* questions)

(5 x 2 = 10)

I. 1. What is green house effect?
2. What are the major classes of organic compounds in soil?
3. What are the natural organic compounds in water?
4. What are the sinks for sulphur in the environment?
5. How concrete structures are polluted by radiation?
6. What are the synthetic detergents and synthetic polymers found in wastewaters?

PART - B

(Answer *any five* questions)

(5 x 3 = 15)

II. Describe ozone hole. What are the chemical reactions involved in the depletion of ozone?

III. What are the inorganic substances in soil? What are their sources and fates in soil?

IV. Describe the significance of redox equilibria in water.

V. What are the sources, pathways and sinks of carbon?

VI. What are the applications of nuclear radiation in medicine and agriculture?

VII. How petroleum products undergo transformation?

(Turn Over)

PART - C

(Answer *any five* questions)

(5 x 5 = 25)

VIII. Describe the history of evolution of the earth's atmosphere.

IX. Describe the acid-base and ion-exchange reactions in soils.

X. Describe the carbonate equilibria and arrive at the distribution of its various species with pH.

XI. Describe the biogeochemical cycle of oxygen.

XII. The half-life of ^{14}C is 5570 years. How long it will take to attain one third of its original radioactivity?

XIII. Describe the pathways for the degradation of synthetic detergents and synthetic polymers in environment.

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