M.Sc. DEGREE I SEMESTER EXAMINATION IN ENVIRONMENTAL TECHNOLOGY, DECEMBER 2006

ENV/ENB 2102 CHEMISTRY OF THE ENVIRONMENT

Time : 3 Hrs. Maximum marks : 50

PART - A

(Answer *ANY FIVE* questions) (5 x 2 = 10)

I.
1. Define oxidizing smog.
2. What are the organic and inorganic components of soil?
3. What is Henry's law on the solubility of any gas ?
4. What are the sources and sinks of oxygen ?
5. What are the radioactive elements ?
6. Mention 3 different methods of degradation of organic compounds

PART - B

(Answer *ANY FIVE* questions) (5 x 3 = 15)

II. Write the chemical equations for the depletion of ozone in the stratosphere.
III. Write a method of mineralisation of a pesticide in soil.
IV. Explain with chemical equations why water exposed to air shows a pH less than 7.0.
V. What is role of speciation in the mobility of metals in water ?
VI. Give the mathematical equation for the decay of a radioactive substance.
VII. How synthetic polymers are degraded in the environment ?

PART - C

(Answer *ANY FIVE* questions) (5 x 5 = 25)

VIII. Describe the different layers of atmosphere.
IX. Explain the ion-exchange and adsorption reactions in the soil.
X. Describe the carbonate equilibrium in water.
XI. Describe the sulphur cycle.
XII. Describe the radioactive tracer technique in environmental applications.
XIII. Explain the transformation of refractory organic compounds with 5 examples.

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