

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 711702N**Date: 26-12-2013****Subject Name: Environmental Chemistry****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full mark.

- Q.1** (a) Discuss Le-Chatelier's principle Using suitable illustration. **07**
(b) Discuss the Dalton's law of partial pressures and compare it with Henry's Law. **07**

- Q.2** (a) Write a note on activity and activity coefficient. **07**
(b) What is meant by order of reaction? Derive an expression for the rate of constant of a second order reaction. **07**

OR

- (b) What is Thermodynamics Process? Differentiate between **07**
(i) Reversible and Irreversible Process
(ii) Adiabatic Process and Internal Energy

- Q.3** (a) What is Reverse Osmosis? How is sea water purified using this techniques? **07**
(b) Write a Short note on "Dialysis". **07**

OR

- Q.3** (a) Write a short note on "Solvent Extraction Electrochemistry". **07**
(b) What is Buffer solution? Explain buffer actions using suitable examples. **07**

- Q.4** (a) Give classification of Pesticides and its uses. **07**
(b) Discuss the properties of an organic compounds. **07**

OR

- Q.4** (a) Write short note on "Soil Pollution". **07**
Q.4 (b) Enlist the different types of fertilizers and discuss its environmental impact. **07**

- Q.5** (a) What is pH and pH scale? Describe different methods used for measurement of pH. **07**
(b) What is Hardness? Describe the procedure used for measurement of Hardness. **07**

OR

- Q.5** (a) Explain the principle and working of spectrophotometer with neat diagram. **07**
(b) Write short note on "Gas Chromatograph". **07**
