

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subject code: 711702N

Date: 02-12-2014

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 marks.

- Q.1 (a)** Short Answer Question **07**
1. How biochemical pesticides work?
 2. For any short of chromatographic analysis which suitable compositions are used for the steady state and mobile state?
 3. Explain what Free Energy is.
 4. Explain second law of thermodynamics.
 5. Due to high persistence and high potential for creating harm to human and environment which particular pesticides are banned?
 6. Enlist the name of certain composition which National Research Council has suggested which works for Endocrine disturbance.
 7. Enlist the different molecules which affect the productive soil.
- (b)** Explain Gas Chromatographic method in detail with schematic diagram. **07**
- Q.2 (a)** Explain in brief any suitable method to determine the presence of Sulphurous compound in surface or ground water. **07**
- (b)** Explain in brief the nature and composition of soil. **07**
- OR**
- (b)** Explain in brief different sources and composition of agricultural pollution and its remedies. **07**
- Q.3 (a)** What use is made of the BOD test in water Pollution control? List five requirements that must be compiled within order to obtain reliable BOD data. **07**
- (b)** Explain what oxidation and reduction reaction is. Give some examples which are related to the degradation chemistry of some harmful composition. **07**
- OR**
- Q.3 (a)** What is soap and detergent? Explain its utility and degradation reactions. **07**
- (b)** Discuss amelioration of soil acidity. **07**
- Q.4 (a)** Enlist different types of pesticides their biological properties and rate the contamination carried out by them. **07**
- (b)** (1) Principles of Chromatography. Enlist different chromatography methods. **07**
(2) Determination of pH.
- OR**
- Q.4 (a)** Enlist different types of alcohols, aldehydes and ketones with their sources and utility and explain their course of degradation chemically as well as biologically. **07**
- (b)** Brief the relation between Genetic Engineering and Agriculture. **07**
- Q.5 (a)** Explain in brief the importance of **07**
(1) Acidity (2) Alkanity determination (3) Chemical Oxygen Demand.
- (b)** Explain the standard methods of determination of: Total Hardness, Dissolved Solids and Nitrates. **07**
- OR**
- Q.5 (a)** Explain in brief about the Gas Chromatography. **07**
- (b)** Explain different sources of water pollution and the remedial measure to control the same with latest technology. **07**
