



Reg. No. :

Name :

Fourth Semester M.Sc. Degree Examination, July 2016

Branch : Analytical Chemistry

CL 241 : ANALYTICAL CHEMISTRY

(2013 Admission Onwards)

Time : 3 Hours

Max. Marks : 75

SECTION - A

Answer **any two** among (a), (b) and (c) from **each** question. **Each** question carries 2 marks.

1. a) How can you estimate the amount of Calcium in a given water sample ?
b) What do you mean by waste water treatment ? Why is it significant ?
c) How does domestic sewage water decreases DO due to thermal pollution ?
2. a) Mention the important non-humic substances in soil with suitable examples.
b) How can you measure the acidity in a soil sample ?
c) What are the different Biochemical processes that influences soil solution pH ?
3. a) How does NO_x causes ozone depletion ? Write down the related chemical reactions.
b) What is Green House effect ?
c) Give a note on Air pollution monitoring programmes.
4. a) Distinguish between adulteration and contamination of food.
b) What do you mean by Lethal dose ? Mention its significance.
c) What are the major effects of poisoning due to cyanide ?
5. a) Give one method of clinical estimation for blood sugar.
b) Define Iodine value.
c) What is the chemistry behind the breath alcohol test ?

(2×10=20 Marks)



SECTION - B

Answer **either** (a) or (b) from **each** question. **Each** question carries **5** marks.

6. a) How can you estimate the amount of dissolved solids in water analysis? Explain.
b) Describe the method of waste water treatment in textile industry.
7. a) Brief the determination of soil organic carbon content.
b) With suitable example, explain the use of pE-pH diagrams for redox sensitive elements.
8. a) Discuss the various sampling methods for gaseous pollutants.
b) Describe the method of analysis of CO₂ in atmosphere.
9. a) Describe the method of analysis of Hg as a poisonous element.
b) What are the major causes of poisoning due to dioxines? Express your views to minimize such incidents.
10. a) Give a short note on Brix degree.
b) What do you mean by Quality control of a drug? Explain its significance.

(5×5=25 Marks)

SECTION - C

Answer **any three** questions. **Each** question carries **10** marks.

11. Describe the various chemical parameters which determine the quality of water.
12. Describe the various chemical and biochemical processes that influences soil solution pH.
13. Mention the layers of atmosphere which are of utmost importance from an environmental perspective. Discuss the process happening in each of these layers with equations if applicable.
14. Discuss about the health hazards and remedial measures of poisoning due to Morphine and Nicotine.
15. Give an account of characterization of fats and oils.

(10×3=30 Marks)