



NATIONAL OPEN UNIVERSITY OF NIGERIA
School of Science & Technology
End of Semester Examination 2012/2013
CHM 314 - Environmental Chemistry

TIME: 2 hours

Instruction: Answer 4 questions only

1. (a) List four important sources that contribute oil and grease to municipal wastewater (4 marks)
(b) Discuss any two named common anions in natural and wastewaters (6 marks)
(c) Discuss the major processes through which water moves around our planet.
(7½marks)
2. (a) i List four layers of the earth's atmosphere (4 marks)
ii.) List four criteria used to designate a chemical substance as a "priority pollutant"? (4 marks)
(b) Discuss the following in relation to water pollution (i) Eutrophication
(ii) Heavy Metals
(iii) Thermal Pollution (9½ marks)
3. (a) List five classes of the chromatographic technique (5 marks)
(b) Discuss the following air pollutants (i) carbon monoxide
(ii) Ozone
(iii) Particulates (9 marks)
(c) Write briefly on The Minamata Bay disease (3½ marks)
4. (a) List four analytical methods used in 'wet chemistry' for the determination of anions. (4 marks)
(b) Write short notes on the following
i. Biochemical Oxygen Demand
ii Chemical Oxygen Demand
iii Dissolved Oxygen (9½ marks)
(c) List four detectors that are used in Gas Chromatographic Analysis (4marks)
5. (a) List four processes involved in wastewater treatment. (4 marks)
(b) List the four most used waste disposal methods. (4 marks)
(c) Discuss three named physical parameters relevant to water analysis (9½ marks)
6. (a) List four ways by which carbon dioxide can be released into the atmosphere (4 marks)
(b) List the basic processes involved in Nitrogen Cycle (3marks)
(c) Discuss any two of the processes involved in Nitrogen Cycle (7½marks)
(d) List three forms in which sulphur occurs on the earth sulphur (3marks)