NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS

SCHOOL OF SCIENCE AND TECHNOLOGY
OCTOBER 2013 EXAMINATION

Course Code: CHM 314: **Time: 2 Hours**

Course Title: Environmental Chemistry

INSTRUCTION: Answer any four Questions

1.
a) i. What is the carbon cycle? (4 marks)
ii. State and explain one way by which carbon is: (a)released into the atmosphere (b) removed from the atmosphere. (8 marks)
b) Explain briefly the movement of water in its physical states through and around the planet. (5½marks)

2.
a) With respect to their distance from the Earth's surface and characteristics, distinguish between the troposphere and stratosphere. (8 marks)
b) i. In which layer of the atmosphere is ozone predominantly found? (2 marks)
ii. Explain briefly the significance of the ozone layer. (3 marks)
iii. Use chemical equations to show how ozone is depleted by dichlorodifluoromethane. (4½marks)

3.
a) i. Differentiate between contamination and pollution. (5 marks)
ii. State one criterion that designates a pollutant as a priority pollutant. (2 marks)
b) i. List one source and state one effect of crude oil on the aquatic environment. (3 marks)
ii. State and explain briefly the approaches of priority pollutant control. (7½ marks)

4.
(a) i. Define Solid waste. (3 marks)
ii. State the types of solid wastes. (4 marks)
(b) i. Explain briefly Sanitary Landfill. (4½ marks)
ii.State three reasons why open dumping is not a good choice of solid waste disposal. (6 marks)

5.
a) i.List two sources of soil pollutants. (2 marks)
ii.Explain briefly the mechanism of Soil pollution by

- Sorption of gases. (3 marks)
- Fluvial transport and deposition. (3 marks)

iii. State one consequence of Soil pollution. (2 marks)

b) i. State three constituents of municipal waste water. (3 marks)

ii. Write briefly on preliminary waste water treatment. (4½marks)

6.

a) i. Explain the term turbidity as it applies to water. (3 marks)

ii. What are the causes of turbidity in water? (3 marks)

iii. Describe how flood contributes to turbidity in water. (4 marks)

iv. State the significance of turbidity in water. (2 marks)

c) i. What is Biochemical Oxygen Demand? (3 marks)

ii. State one application of Biochemical Oxygen Demand. (2½ marks)