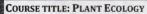


#### University of Fayoum, Faculty of Science Department of Botany

# FINAL EXAMINATION FOR FRESHMEN (SECOND YEAR) STUDENTS OF BIOLOGY/CHEMISTRY



DATE: 12/1/2012 TERM: FIRST TOTAL MARKS: 35



TIME: 2 HOURS

### Answer the following question:

Write what you know about the following:

- 1. Biotic components of an ecosystem? (15 mark)
- 2. Describe the factors influencing Environments and habitats? (10 mark)
- 3. Write short notice about the Environmental factors ? (10 mark)

Academic year: 2<sup>nd</sup> Year Programme: Chem-Geology Date: 12 / 01 / 2012 Total assessment mark: 35



Department: Chemistry

Subject Title & code: Anal. Chem. (1)

Time allowed: 2 hours No. of pages: (1)

#### Question (1).

(15 Points)

- (A) What is meant by titration curve? Distinguish between neutralization, reductionoxidation and precipitation titration curves.
- (B) Differentiate between iodimetry and iodometry.
- (C) Ferric alum is added in titration of halides and SCN by Volhard method. Why?
- (D) Calculate the weight of Na<sub>2</sub>SO<sub>4</sub> needed to prepare 300 mL solution with 0.23 N concentration.

#### Question (2).

(10 Points)

- (A) The color-change interval for neutralization indicator is  $pH=pK_{in}\pm 1$ . Explain Why?
- (B) Why the equivalent weight of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> one-six molecular its weight in acidic medium?
- (C) Copare between potassium permanganate and dichromate as oxidizing agents.

#### Question (3).

(10 Points)

- (A) Comment on the following:
  - i) The pH of ammonium chloride solution is less than 7.0.
  - ii) Excess potassium iodide is added in iodometric determination of copper.
- B) Calculate the pH for mixture of 6.0 mL, 0.2 M acetic acid (Ka 1.8 x 10<sup>-5</sup>) and 4.0 mL, 0.2 M and acetate.

**Exam Ends Here** 

At. Wt. Na=23, H=1, C=12, O=16, S=32, N=14

Academic year: 2<sup>nd</sup> Year Programme: Chem-Physics Date: 12 / 01 / 2012 Total assessment mark: 55



Department: Chemistry

Subject Title & code:Anal. Chem (1)

Time allowed: 3 hour No. of pages: (2)

Question I.

(10 Points)

## Distinguish between each pair of the following (Give an example):-

i-A primary standard and secondary standard solutions.

ii- enormal and one molar sodium carbonate solutions.

iii-A strong electrolyte and a weak electrolyte

iv-Oxidation-reduction and metathesis reactions.

**Question II** 

(10 Points)

Derive a curve for the titration of 50 mL of 0.1 M HCl with 0.1 M NaOH.

**Question III** 

(10 Points)

A)-Describe the preparation of 3 L of 0.1 normal Na<sub>2</sub>CO<sub>3</sub> solution.

### (B) Give reason(s):

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i-The usefulness of EDTA as titrant for metal ions.

ii-Addition of dextrin in titration of chloride by Fajan's method.

iii-Water is not recommended washing solvent for precipiates.

## **Question IV**

(10 Points)

## Compare between each pair of the following:

i-co-precipitation and post precipitation with examples.

ii- Drying and ignition of precipitates.