OLABISI [illegible] UNIVERSITY

FACULTY OF BASIC MEDICAL SCIENCES

DEPARTMENT OF BIOCHEMISTRY

REMO CAMPUS, IKENNE

2010/2011 HARMATTAN SEMESTER EXAMINATION

TIME: 2 HRS

COURSE TITLE: ADVANCED BIOCHEMICAL METHODS

DATE: 6TH JULY, 2011

COURSE CODE: BCH 415

INSTRUCTIONS: ANSWER ALL QUESTIONS

1. a) Explain the following:

   i. Molarity, ii. Normality iii. Concentration

   b) How will you prepare

   i. 500ml of 0.5M HCl given % purity of the stock HCl is 36% $^{w}/_{w}$ and specific gravity = 1.18

   ii. 250ml of 4% $^{w}/_{v}$ NaOH from 10% $^{w}/_{v}$ NaOH

2. a) List out

   i. The various techniques of chromatography

   ii. The forms of chromatography

   b) The table below shows the outcome of an experiment on chromatography. Fill in the gaps on the table.

Sample	Distance moved by solvent (cm)	Distance moved by substance (cm)	R_f Value
A	7.2	5.3	-
B	6.7	6.0	-
C	-	7.3	0.87
D	5.5	-	0.58
E	9.6	7.3	-

   c. With a labelled diagram, show how sample A in the above table will look like when running the chromatography.

3. a) State: i. The principle by which the extraction of egg albumin by the salting – out method could be achieved. ii. The principle by which the purification of the protein could be obtained.

4. a) What is spectrophotometer

   b) State the physical process involved when using spectrophotometer to assay a sample.

   c) Sketch a diagram to show the various devices that make-up a spectrophotometer.