COURSE CODE: BCH 309

TIME ALLOWED: 2Hours

COURSE TITLE: BIOCHEMICAL METHODS

DATE: 26TH JULY 2012

INSTRUCTION: ANSWER ALL QUESTIONS (USE SEPARATE BOOKLET)

1. (a) What is the need for an over-speed control system in preparative ultracentrifuges?

   (b) A scientist desires to compact a mixture of erythrocytes for his lab analysis. Suggest and describe the device/method he can use for this.

2. (a) Assuming you are asked to determine the molecular weights of some protein samples. give the step by step procedure to be carried out in achieving this.

   (b) What other purpose can the technique in 2(a) also fulfill?

3. (a) Distinguish between molar concentration (M) and percentage concentration : weight per volume (%(w/v).

   (b) 30 ml of 0.1M NaOH was mixed with 20 ml of 0.05M NaOH. Calculate the concentration of the mixture (i) in moles/dm^3 or Molar and (ii) in % (w/v).

   (c) Describe the preparation of 250 ml of 0.01M H_2SO_4 from a concentrated solution i. e. 98 % (w/w) given that the density of the concentrated acid is 1.18 g/ml.

a) Describe three types of spectroscopy.

List some of the uses of spectroscopic technique.