



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

(ANALYTICAL CHEMISTRY WITH MANAGEMENT)

SCH 106: QUALITY ASSURANCE AND LABORATORY MANAGEMENT

DATE: Tuesday 3rd April, 2012

TIME: 2.00 p.m. – 4.00 p.m.

INSTRUCTIONS

Answer ALL questions.

- Q1 (a) Explain what you understand by laboratory management and state the main function of any management system. [5 Marks]
- (b) You have been employed as a principal technician in a large laboratory that deals with research and quality assurance issues and your main duty is to manage the laboratory. Describe the areas you will be involved in managing the following areas:
- (i) Personnel
 - (ii) Equipment
 - (iii) Supply [18 marks]
- (c) (i) Explain the difference between quality control and quality assurance.
- (ii) Describe the main components of a quality assurance plan in a laboratory setting. [6 marks]

- Q2. (a) An important aspect of quality assurance program in an analytical lab is the analysis of samples. Explain how the following aspects sample analysis are identified and controlled.
- (i) Sample collection
 - (ii) Sample preparation
 - (iii) Sample analysis [12 marks]
- (b) In the design and construction of a chemical laboratory several service installations are included.
- (i) Name the necessary installations required in a chemical lab.
 - (ii) Explain the importance and positioning fume hood, water and ventilation in a chemical laboratory. [12 marks]
- Q3. (a) Personal safety in a chemical laboratory is an important of general safety. Describe how this is achieved using:
- (i) Protective clothing and equipment
 - (ii) Health and hygiene [8 marks]
- (b) Write short notes on the following terms:
- (i) Flammable liquids
 - (ii) Toxic substances
 - (iii) Hazardous chemical wastes [9 marks]