



# THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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**MAIN EXAMINATION**

**AUGUST - DECEMBER 2018 TRIMESTER**

**FACULTY OF EDUCATION**

**DEPARTMENT OF UNDERGRADUATE STUDIES IN EDUCATION**

**REGULAR PROGRAMME**

**ED 316: SUBJECT METHODS: CHEMISTRY**

**Date: DECEMBER 2018**

**Duration: 3 Hours**

**INSTRUCTIONS: Answer Question ONE and any other THREE Questions**

- Q1. a) Explain the importance of chemistry to a lawyer. Limit your answer to two points **(2 marks)**
- b) Describe four factors that influence the choice of a teaching resource. **(4 marks)**
- c) You are to teach the subtopic "Burning of hydrocarbons in air".
- i) Write a detailed lesson plan for the subtopic. (Do not write your real names on the papers. The method of teaching should clearly stand out in the plan). **(5 marks)**
  - ii) Write an examination test item of 2 marks that a teacher can give on the subtopic. (The test item should not be in the knowledge level of blooms taxonomy). **(2 marks)**
- d) Describe how to prepare 800 mL of 2 M sodium chloride. (Na = 23, Cl = 35.5) **(3 marks)**
- e) State the Importance of having the following in a Preparation Room. **(2 marks)**
- i) Electronic Balance
  - ii) Water Purification System

- f) Describe the first aid measures that should be taken when a student inhales toxic gases in the laboratory. **(3 marks)**
- g) Give the details of safety precautions that should be taken in storing concentrated sulphuric acid. (Your answer should include storage location and chemical compatibility). **(2 marks)**
- h) List the four minimum chemical label requirements: **(2 marks)**
- Q2. a) The following subtopics are taught in Form one under the topic “Simple classification of substances”
- i) Names and symbols of common elements
  - ii) Simple word equations
  - iii) States of matter
  - iv) Permanent and non-permanent changes

The work is to be covered from week 3 of term two of a school calendar. You have been assigned the class and the the class time table is as follows: A double occurs on Monday from 11:05 am – 12:25 pm; a single on Wednesday 9:20 am - 10:00 am and another single on Thursday from 2:00 pm – 2:40 pm. Draw a detailed scheme of work for the subtopic. (Do not write your real names on the scheme). **(15 marks)**

- Q3. a) Critically analyze FIVE teaching resources commonly used in Chemistry.(Include examples of subtopic that each method is most suitable) **(10 marks)**
- b) Assess how the secondary school chemistry syllabus of Kenya achieves the first national goal of education. **(5 marks)**
- Q4. a) Explain FIVE experiments in Chemistry that require great care and determine the dangers and precautions associated with the experiments. **(10 marks)**
- b) Discuss ‘storage of chemicals’ in a chemistry laboratory. **(5 marks)**
- Q5. a) Explore a detailed standard design of a chemistry laboratory. **(10 marks)**
- b) Using five suitable examples, discuss the materials in chemistry that can be improvised. **(5 marks)**

- Q6. a) Enumerate FIVE assessment methods commonly used in Chemistry. **(5 marks)**
- b) Evaluate FIVE benefits of chemistry to the society. **(10 Marks)**

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