



CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

SEPTEMBER – DECEMBER 2020 TRIMESTER

FACULTY OF EDUCATION

DEPARTMENT OF UNDERGRADUATE STUDIES IN EDUCATION

REGULAR PROGRAMME

ED 316: SUBJECT METHODS CHEMISTRY

Date: DECEMBER 2020

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

QUESTION ONE (30 MARKS)

- a. Outline any three techniques that students can use to communicate chemical ideas from a laboratory investigation. **[3 marks]**
- b. From the topic of “Atom and Periodic Table”, write:
 - i. Two instructional objectives each at different levels of learning. **[2 marks]**
 - ii. Based on the objectives in (i) above, construct two question items to evaluate the attainment of the objectives. **[2 marks]**
- c. Describe the steps that a Chemistry teacher can follow to prepare a scheme of work. **[4 marks]**
- d. Discuss any four factors that a secondary school Chemistry teacher should take into consideration when selecting a teaching method for use. **[4 marks]**
- e. Outline the first aid for an alkali burn. **[3 marks]**
- f. Discuss the procedures a Chemistry teacher should use when preparing 0.25 M solution of sulphuric acid. Given that the percentage purity of the acid is 98 % ; specific gravity = 1.8 g/cm³(S =32.0, H =1.0, O=16.0) **[4 marks]**
- g. You are to teach the subtopic “Preparation of Oxygen”.
 - i. Write three objectives of the lesson. **[3 marks]**
 - ii. Describe how you will conduct the lesson. **[5 marks]**

QUESTION TWO (20 MARKS)

You are to teach the following content under the Topic structure and bonding.

- I. Formation of ionic bond
 - II. Properties of ionic compounds
- a. Write a section of a scheme of work for the content. **[10 marks]**
 - b. Write a lesson plan for the first lesson of your scheme of work in (a). **[5 mark]**
 - c. Explain the advantages of using teaching aids in chemistry lesson. **[5 marks]**

QUESTION THREE (20 MARKS)

- a. Describe briefly four general objectives of teaching Chemistry in Kenyan secondary schools. **[4 marks]**
 - b. State any three uses of Evaluation results in Chemistry teaching and learning in secondary schools. **[3 marks]**
 - c. State and explain four importance of a scheme of work to a Chemistry teacher. **[8 marks]**
- a. Explain five ways in which a Chemistry teacher can involve students in teacher demonstration lesson. **[5 marks]**

QUESTION FOUR (20 MARKS)

- a. State and explain four scientific attitudes that a Chemistry teacher should inculcate in a chemistry learner. **[4 marks]**
- b. Explain any three factors that may influence a Chemistry teacher to choose field trip as a teaching method. **[6 marks]**
- c. State and explain the considerations to make when designing and locating a laboratory in a secondary school. **[5 marks]**
- d. Highlight any five factors that a chemistry teacher should consider when selectingTextbook from several texts to use in teaching secondary school students. **[5 marks]**

QUESTION FIVE (20 MARKS)

- a. State four different wastes generated from a chemistry laboratory. **[4 marks]**
- b. Explain how different wastes stated in (i) can be disposed of. **[5 marks]**
- c. Explain how chemicals are stored in the laboratory. **[5 marks]**
- d. Explain why Alchemists were unable to contribute to development of Chemistry as a science. **[3 marks]**
- e. State and explain briefly two ways that a teacher can use to introduce a Chemistry lesson. **[3 marks]**

END