



# MACHAKOS UNIVERSITY

University Examinations 2019/2020

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL TECHNOLOGY

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION

ECT 305: CHEMISTRY SUBJECT METHODS

DATE: 10/11/2020

TIME: 11:00 – 1:00 PM

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INSTRUCTIONS: Answer Question One and Any Other Two

## QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Explain how you would stimulate the interest of a form one class **in four** careers related to Chemistry as a subject. (INCLUDE strategies and resources). (8 marks)
- b) Explain the steps in the **Learning Cycle** method of teaching of Chemistry; You are free to make reference to a named practical. (12 marks)
- c) Discuss any **four Attitudes** of science promoted through Chemistry. (8 marks)

## QUESTION TWO (20 MARKS)

Prepare an 80-minute Lesson Plan for practical lesson on **Test for Cations using NaOH(aq); and NH<sub>4</sub>OH(aq).**

Include: **Copper II Ions; Iron II Ions; Al III Ions; Zinc II Ions; and Barium II Ions.**

## QUESTION THREE (20 MARKS)

Discuss how Chemistry contributes **to any three** of the following:

- i) Human Health.
- ii) Industrial Development.
- iii) Career Development.

## QUESTION FOUR (20 MARKS)

Explain the significance of **one** of the following approaches to the teaching of Chemistry:

- i) The Experimental Method.
- ii) The Use of Meta-Cognitive Tools.
- iii) The Process-Skills approach.
- iv) The Demonstration Method.

### QUESTION FIVE (20 MARKS)

Write briefly about the skills tested in each one of the following areas of chemistry practical

- i) Test for Anions. (5 marks)
- ii) Test for Cations. (5 marks)
- iii) Factors of Rate of reaction. (4 marks)
- iv) Volumetric analysis. (6 marks)