



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF EDUCATION**

**UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF EDUCATION**

**SCIENCE/ARTS/SPECIAL NEEDS**

**3<sup>RD</sup> YEAR 1<sup>ST</sup> SEMESTER 2016/2017 ACADEMIC YEAR**

**REGULAR (MAIN)**

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**COURSE CODE: ECT 333**

**COURSE TITLE: SPECIAL METHODS OF TEACHING CHEMISTRY**

**EXAM VENUE: STREAM: (BED ARTS/ SCIENCE/SPECIAL NEEDS)**

**DATE: EXAM SESSION:**

**TIME: 2.00 HOURS**

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**Instructions:**

- 1. Answer question 1 (Compulsory) and ANY other 2 questions**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

- Q1. a) Highlight the possible effects of free secondary education on chemistry teaching in Kenyan schools (5mks)
- b) Explain how examination system in Kenya may affect attainment of the objectives in chemistry in secondary education (3mks)
- c) Why is it rare to use questioning and observation techniques for formal assessment in chemistry teaching (5mks)
- d) Calculate the volume of the stock  $\text{H}_2\text{SO}_4$  that should be used to prepare  $1\text{dm}^3$  of  $2\text{m}$  of  $\text{dm}^{-3}$  (3mks)
- e) Explain the essential components of scheme of work (10mks)
- f) Outline four factors to consider when constructing a chemistry laboratory (4mks)
- Q2. a) Bloom taxonomy suggests that an individual cannot value or judge something until facts are known, understood, applied, explained and re- ordered. Discuss (6mks)
- b) Why should it be mandatory for a chemistry teacher to always rehearse an experiment before presenting it to students (3mks)
- c) Describe some of the ways a teacher can conclude on a lesson (3mks)
- d) State and explain some of the attitudes learnt in a practical lesson. (3mks)
- Q3. a) Explain ASEI/ PDSI movement of teaching and learning of chemistry. (8mks)
- b) Account for the inclusion of process skills in the teaching of chemistry in secondary schools (3mks)
- c) Discuss laboratory management under (4mks)
- i) Laboratory design
  - ii) Location
  - iii) Storage of chemicals
  - iv) Discipline
- Q4. a) Assume you have taught preparation of hydrogen. Design a record of work covered for a single lesson (5mks)
- b) Evaluation is key to teaching chemistry. Discuss (10mks)
- Q5. a) Which factors should a chemistry teacher consider when purchasing book. (5mks)
- b) What are the functions of a preparation room in a chemistry laboratory (3mks)
- c) Essay type of questions is rarely used to evaluate in chemistry. Justify this statement (3mks)
- d) Explain situations where demonstrations can be used as a method to teach chemistry. (4mks)