



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD EDUCATION

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION (EARLY CHILDHOOD EDUCATION)

ECT 305: SUBJECT METHODS CHEMISTRY

DATE: 16/4/2019

TIME: 8:30 -10:30 AM

INSTRUCTIONS: Answer Question One and Any Other Two

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) 'One aim of teaching chemistry is to develop scientific attitudes. Evaluate this statement by describing five such scientific attitudes that are developed in chemistry learners. (5 marks)
- b) A teacher should use a teaching method that is effective. Describe five key characteristics of effective heuristic methods of teaching chemistry. (5 marks)
- c) Explain the value of lesson plan in the teaching of chemistry (5 marks)
- d) 'Structured questions are commonly used in chemistry assessment at secondary school level in Kenya'. Justify the use of this type of testing (5 marks)
- e) Describe the motivational considerations that a teacher should make during the three stages of a lesson. (6 marks)
- f) Most schools in Kenya prefer to use the flexible bench design laboratory for secondary school chemistry teaching. Justify the choice. (4 marks)

QUESTION TWO (20 MARKS)

- a) Using a relevant example from chemistry teaching, differentiate between inductive and deductive approach in the teaching of chemistry (6 marks)
- b) Question answer technique is integrated in all other methods of teaching. In reference to chemistry teaching, describe the roles of this technique. (6 marks)

- c) You are preparing to teach the topic ‘preparation of oxygen gas in the laboratory’ to a group of Form one learners;
- i) Write **two** appropriate instructional objectives in comprehension level of cognitive domain (2 marks)
 - ii) Identify and justify the **best** method you would apply in the lesson (2 marks)
 - iii) Describe two resources you would improvise for the lesson (2 marks)
 - iv) Suggest two activities the learners would actively participate in during the lesson (2 marks)

QUESTION THREE (20 MARKS)

- a) Using a valid example from chemistry teaching, explain **Five (5)** important factors that a teacher of chemistry should consider when selecting a method or a combination of methods for teaching at secondary school level. (10 marks)
- b) Discuss five (5) major reasons why experiment should be emphasized in chemistry. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Describe the characteristics of an atomic model used for teaching structure and bonding in chemistry (5 marks)
- b) Identify **five (5)** types of safety equipment’s found in the chemistry laboratory (5 marks)
- c) Discuss the importance of improvising resources for chemistry teaching (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe the steps you would follow in planning and implementing a teacher demonstration lesson from the Form Two topic “preparation of chlorine gas” (10 marks)
- b) Prepare a lesson plan for the lesson described in (a) above (10 marks)