



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF EDUCATION
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
SCIENCE
3RDYEAR 1STSEMESTER 2015/2016 ACADEMIC YEAR
MAIN CAMPUS

COURSE CODE: ECT 332

COURSE TITLE: SPECIAL METHODS OF TEACHING BIOLOGY

EXAM VENUE: LR 1

STREAM: (BEd. Science)

DATE: 19/04/2016

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2 HOURS

Instructions:

- 1. Answer Question ONE (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.**

1. each of the following:
 - i. The community (3 marks)
 - ii. The individual learner (3 marks)
 - b. Explain one way in which the availability of teaching-learning resources has affected the design of the present secondary school biology curriculum. (2 marks)
 - c. Briefly explain the following:
 - i. A teacher needs to vary his/her classroom instructional methods from time to time. (2 marks)
 - ii. A teacher needs to try out a demonstration at least once before presenting it to the class. (2 marks)
 - iii. A teacher needs to use a variety of teaching/learning resources. (2 marks)
 - iv. A beginning teacher should have teaching/lesson notes in the course of his teaching. (2 marks)
 - d. i. State two uses of an aquarium in the teaching /learning of biology. (2 marks)
 - ii. Describe three ways in which field studies/trips can enhance learning of biology. (3 marks)
 - iii. Give two advantages models have over wall charts as teaching aids. (2 marks)
 - e. State two advantages and two disadvantages of objective type tests. (4 marks)
2. a. Give three reasons why the preparation of a scheme of work is important in the teaching of biology in secondary schools. (3 marks)
- b. State and explain four main aspects/factors/things a teacher should put into consideration when preparing a scheme of work. (17 marks)
3. a. Teaching, evaluation and instructional objectives are important and interdependent facets of the teaching/learning of biology. Explain how the three are related. (6 marks)
- b. Identify three different types of tests and give the instructional purpose of each. (6 marks)
- c. i. A teacher wants to set a test for his Form 1 class, covering the topics: The Cell and Classification 1. The test is to be out of 40 marks, with each of the topics contributing test items totaling. (20 marks)

The topic The cell has 11 objectives of which 5 relate to the cognitive level of knowledge, 2 relate to comprehension , 3 relate to application and 1 relates to analysis.

The topic, Classification 1 has 6 objectives, 4 of which relate to knowledge and 2 relate to comprehension.

Using the information provided, construct a simple test grid or table of specification which the teacher can make use of in setting questions for his test. (6 marks)

4. Imagine you are a teacher of biology in one of the secondary schools in Kenya. According to your scheme of work you are supposed to teach the subtopic Dentition and tooth structure of the mammals in a double lesson (80 minutes) to a Form one class.

The subtopic has the following objectives:

The learner should be able to:

- i. Draw and label a longitudinal section of a generalized tooth structure.
- ii. Identify the different types of teeth (incisors, canines, premolars and molars), observe and describe their adaptations.
- iii. Observe and draw teeth arrangement in the sheep, pig and dog.
- iv. Write down/work out the dental formula for each of the animas.

Prior to this double lesson, you had given preliminary information on dentition and dental formula and also discussed the general functions of the different types of teeth.

Question:

Describe clearly and accurately how you could go about teaching the subtopic so that the stated objectives are achieved. Indicate the teaching aids or resources you would use and approximate times for the different stages of your presentation. (20 marks)

5. a. Describe the changes that have been made in secondary school biology curriculum since independence. (15 marks)

b. If there is need to improve the current secondary school biology curriculum, what changes would you suggest. (5 marks)