



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF EDUCATION

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
(SCIENCE)

3RD YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR

REGULAR PROGRAMME

MAIN CAMPUS

COURSE CODE: ECT 332

COURSE TITLE: SPECIAL METHODS OF TEACHING BIOLOGY

EXAM VENUE:

STREAM: B. ED. (SCIENCE)

DATE:

EXAM SESSION:

TIME: 2 HOURS

INSTRUCTIONS

1. Answer question ONE (compulsory) and any other TWO 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.

QUESTION ONE

- a. State the benefits of Biology to an individual learner. (2 marks)
- b. Distinguish between the philosophies of reductionism and holism as applied in Biology. (4 marks)
- c. Outline any three characteristics of a well written instructional objective in a Biology lesson. (3 marks)
- d. State any TWO advantages and any TWO disadvantages of multiple choice questions in a Biology test. (4 marks)
- e. Explain why is it important for teachers to vary instructional methods and techniques during the teaching and learning process? (3 marks)
- f. State FOUR reasons why a teacher must try a demonstration before the actual lesson. (4 marks)
- g. Justify why is it important to use a variety of teaching and learning materials? (4 marks)
- h. State the importance of lesson notes to a Biology teacher? (2 marks)
- i. Explain the relationship between a lesson plan and a scheme of work. (4 marks)

QUESTION TWO

- a. Explain any FIVE benefits of biology to the community. (10 marks)
- b. The seventh objective of Kenya's secondary school education system is to promote positive environmental and health practices. Analyse Kenya's secondary school Biology syllabus and provide evidence on how various topics and subtopics contribute towards achieving this objective. (10 marks)

QUESTION THREE

a. Examine the changes that have taken place in Kenya's secondary school Biology education since 1986 when 8-4-4 Biology curriculum was implemented up to now.

(10 marks)

b. Explain why Biology teachers must prepare schemes of work. (10 marks)

QUESTION FOUR

a. Discuss any FIVE factors a Biology teacher should consider during the preparation, selection and use of teaching and learning resources. (10

marks)

b. What precautions should Biology teachers put into consideration to safeguard themselves and other laboratory users against accidents during Biology practical lessons. (10

marks)

QUESTION FIVE

a. Instructional objectives, teaching strategies and evaluation are important and interdependent facets of the teaching/learning of biology. Explain how the three are related.

(6 marks)

b. State any SIX uses of classroom tests.

(6 marks)

c. i. A teacher wants to construct a test for his Form 1 class, covering the topics: Transport and Gaseous Exchange. The test is to be scored out of 40 marks, with each of the topics contributing test items totaling 20 marks.

The topic Transport 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, Gaseous Exchange has 6 objectives, 4 of which relate to cognitive level of 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 constructing questions for his test.

(8 marks)