



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF EDUCATION HUMANITIES AND SOCIAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
(SCIENCE)
3RDYEAR 1STSEMESTER 2022/2023 ACADEMIC YEAR
REGULAR PROGRAMME
MAIN CAMPUS

COURSE CODE: ECT 332

COURSE TITLE: SPECIAL METHODS OF TEACHING BIOLOGY

DATE: 21/12/2022

SESSION: 15.00-17.00PM

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. As a Biologist, how can you explain the origin of diseases? (4 marks)
- b. Distinguish between the philosophy of reductionism and holism. (4 marks)
- c. Explain how the study of biology can lead to the improvement in the welfare of the community? (4 marks)
- d. Identify any **FIVE** factors that have influenced changes in Kenya's secondary school Biology curriculum. (5 marks)
- e. Explain how some laboratory rules can hamper activities in a Biology laboratory. (4 marks)
- f. (4 marks)
- g. Explain why it is important to try out a demonstration before presenting it to the class. (4 marks)
- h. (4 marks)
- i. As there is need to change the current secondary school curriculum so as to conform to the CBC curriculum, what changes would you suggest? (2 marks)
- j. Describe three ways in which field trips can enhance learning of Biology. (3 marks)
- k. Why is it that multiple choice tests are rarely used in evaluation in Kenya's secondary school Biology? (4 marks)

QUESTION TWO

- a. Identify ten reasons why it is important for teachers to prepare schemes of work before the actual teaching. (10 marks)
- b. Assuming that you want to start teaching the topic "Transport" in Form Two in Kenya's secondary school syllabus, prepare a two-week scheme of work that would enable you to teach the initial content in the topic. (10 marks)

QUESTION THREE

- 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. (6marks)
- c. i. A teacher wants to set a test for the Form 2 class, covering the topics: Respiration and Gaseous exchange. The test is to be out of 40 marks, with each of the topics contributing test items totalling 20 marks.

The topic Respiration has 10 objectives of which 3 relate to the cognitive level of knowledge, 2 relate to comprehension, 3 relate to application and 2 relates to analysis.

The topic, Gaseous exchange has 8 objectives, 2 of which relate to knowledge, 2 relate to comprehension, 3 relate to application and 1 relates to analysis.

Using the information provided, construct a simple test grid or table of specification which the teacher can make use of in setting questions for the test. (8 marks)

QUESTION FOUR

- a. Write one instructional objective and state why you think that the objective you have written is useful. (8 marks)
- b. The eighth goal of education is to: Promote positive attitudes towards good health and environmental protection. Analyse Kenya's secondary school Biology curriculum and show how it aids in the achievement of the goal. (12 marks)

QUESTION FIVE

- a. Discuss **FIVE** factors to be considered in the design of Biology laboratories. (10 marks)
- b. Discuss **TEN** factors to be considered during the preparation, selection and use of teaching and learning resources. (10 marks)