



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF EDUCATION
DEPARTMENT OF EARLY CHILDHOOD EDUCATION
DECEMBER SESSION EXAMINATION FOR
POST GRADUATE DIPLOMA IN EDUCATION
BACHELOR OF EDUCATION
ECT304/704: TEACHING METHODS-BIOLOGY

DATE:

TIME:

INSTRUCTIONS: Answer Question One and Any Other Two

QUESTION ONE (COMPULSORY) (30 MARKS)

- Justify any four (4) reasons as to **how Biology** should prepare a Secondary School student for a career in the Medical Sciences. (8 marks)
- Given **two substrates** containing; **REDUCING SUGARS, and PROTEINS**. Discuss a practical design you would use to test **five key** practical skills in a Biology lesson on **Food tests**. (10 marks)
- Prepare an 80minute Lesson Plan for a practical on the topic '**reproduction in flowering plants**'. (12 marks)

QUESTION TWO (20 MARKS)

Discuss how the **three** phases of a learning cycle can be applied to the teaching of **Dichotomous Key for Classification through a practical**.

QUESTION THREE (20 MARKS)

- Critically contrast the **experimental** and **mathematical** components of Biology as a Science. (10 marks)
- Choose a topic from the Biology Syllabus for Secondary Schools and use it to **describe** how you would implement the **project method of teaching**. (10 marks)

QUESTION FOUR (20 MARKS)

Discuss the five critical steps involved in the process of constructing a balanced test in Biology.

QUESTION FIVE (20 MARKS)

Write a **ten-point critical essay** on one of the following topics:

- i) Biology in Pandemic times.
- ii) Metacognitive teaching in Biology.
- iii) Process-skills approach to the teaching of Biology.
- iv) Biology and Entrepreneurial investment.