



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF EDUCATION

DEPARTMENT OF DEPARTMENT OF COMMUNICATION TECHNOLOGY

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION

ECT 304: TEACHING METHODS-BIOLOGY

DATE: 26/7/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS: answer question one and any other two questions

1. a) Explain **four ways in which** Biology is important for a student who will pursue a Science career. (8 marks).
 (b) Given the pictures of *Tortoise, Earthworm, Grasshopper and Snail*, explain the steps you would use to demonstrate to learners how to use the *Dichotomous Key*. (10 marks).
 (c) Prepare an 80 minute Lesson Plan on the topic *Structure and function of the Human Kidney*. (12 marks).
2. (a) Using a named topic, illustrate the difference between Experimental Biology and Theoretical Biology. (8 marks).
 (b) Discuss any *four attitudes of Science* promoted through the teaching of Biology. (12 marks).
3. Choose a topic from the Biology Syllabus for Secondary Schools and describe how you would teach it using the **Project Method** with emphasis on:
 - (i) Prior preparations before the Project.
 - (ii) Resources you would require to facilitate learning.
 - (iii) Orientation points and guidelines for learners' readiness.
 - (iv) Follow-up activity to consolidate learning points.
4. **Explain and illustrate** the steps in the Scientific Method. (20 marks).

Q5. Write a brief essay on **one** of the following topics: (20 marks).

- a) The stages of Experimentation in Biology.
- b) Class Demonstration as a method of teaching Biology.
- c) Practical Test on Mammalian Bones.
- d) Metacognitive tools in learning Biology.
- e) Constructivist approach to the teaching of Biology.
- f) The use of ICT in teaching Biology.