



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD EDUCATION & EDUCATIONAL

COMMUNICATION & TECHNOLOGY

THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF EDUCATION

ECT 304: TEACHING METHODS-BIOLOGY

DATE: 27/9/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

1.
 - a) Explain **four (4) 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 *the function and adaptation of cell-organelles*. (12 marks)
2.
 - a) Using a named topic, illustrate the difference between Experimental Biology and Theoretical Biology. (8 marks)
 - b) Discuss any **four (4) 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:
 - a) Prior preparations before the Project. (5 marks)
 - b) Resources you would require to facilitate learning. (5 marks)
 - c) Orientation points and guidelines for learners' readiness. (5 marks)
 - d) Follow-up activity to consolidate learning points. (5 marks)
4. **Explain and illustrate** the steps in the Scientific Method. (20 marks)

5. Write a brief essay on **one** (1) 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.