



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**  
**THIRD YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE**  
**OF BACHELOR OF SCIENCE OF AGRICULTURAL EXTENSION & EDUCATION**  
**2022/2023 ACADEMIC YEAR**  
**REGULAR**

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**COURSE CODE: ECT 3322**

**COURSE TITLE: Special Methods of Teaching Biology**

**EXAM VENUE:**

**STREAM: BSc. AGED**

**DATE:**

**EXAM SESSION:**

**TIME: 3 HOURS**

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**Instructions:**

- 1. Answer question ONE and ANY other 2 Questions**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

## SECTION A (30 MARKS)

### Question One

- I. State the branches of biology (2 Marks)
- II. Why is Biology important in the teaching of agriculture? (6 Marks)
- III. Discuss the advantages of genetic engineering in crop production (8 Marks)
- IV. Differentiate between Evaluation and Assessment of learners. (6 Marks)
- V. Identify the domains of learning and state the importance of each. (8 Marks)

## SECTION B (40 MARKS)

### Question Two

- I. Discuss the methods for teaching theory and practical lessons in Biology (10 Marks)
- II. Explain the skills for effectively learning Biology (10 Marks)

### Question Three

- I. Explain why it is necessary to teach Biology practically. (4 Marks)
- II. Given the sub-topic use of a magnifying lens to observe external features of plants and animals, formulate **three (3)** instructional objectives and prepare a lesson plan. (16 Marks)

### Question Four

- I. State the components of a biology syllabus (4 Marks)
- II. Given the topic cell physiology, sub- topic; physiological processes, and content: diffusion, osmosis and active transport. Prepare a scheme of work for one week, identifying the various sections of a scheme of work (16 Marks)

### Question Five

- I. Explain the importance of objectives in the teaching biology. (4 Marks)
- II. What is the relationship between instructional objectives, specific topical objectives, general objectives of secondary biology and national goals of education. (8 Marks)
- III. Discuss how the environment and the botanical gardens are useful in the teaching of biology. (8 Marks)