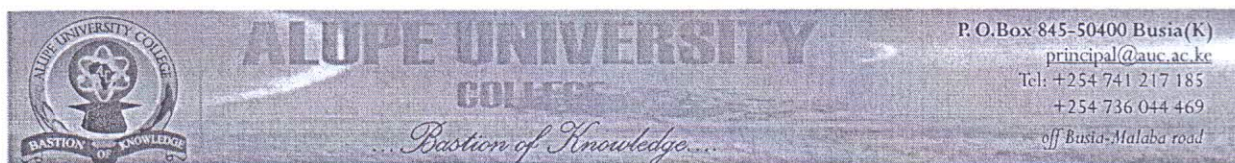


CIM 221



OFFICE OF THE DEPUTY PRINCIPAL  
ACADEMICS, RESEARCH AND STUDENT AFFAIRS

## UNIVERSITY EXAMINATIONS

### 2019/2020 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER REGULAR EXAMINATION

FOR THE DEGREE OF BACHELOR OF  
EDUCATION SCIENCE

COURSE CODE: CIM 221

COURSE TITLE: BIOLOGY EDUCATION I



DATE: 28<sup>TH</sup> OCTOBER, 2020

TIME: 2:00 – 5:00 PM

### INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF THREE PRINTED PAGES

PLEASE TURN

**REGULAR – MAIN EXAM**  
**CIM 221: BIOLOGY EDUCATION I**

**STREAM: BED (Science)**

**DURATION: 3 Hours**

---

**INSTRUCTIONS TO CANDIDATES**

- i. Answer question **ONE** and any other **TWO** questions.
- ii. Do not write on the question paper.

**Question One**

- a) Give **FOUR** reasons why science education is important (4 Marks)
- b) State **FIVE** roles of a teacher in the laboratory (5 Marks)
- c) State **FIVE** major tenets of the nature of science (5Marks)
- d) Differentiate between formative and summative assessment (4 Marks)
- e) State the **FOUR** major philosophies of learning (4 Marks)
- f) Give **FOUR** benefits of improvisation in biology (4 Marks)
- g) Outline four factors to be considered when putting up a biology laboratory (4 Marks)

**Question Two**

- b) Describe the **SIX** stages of the science process (6 Marks)
- c) Outline the science process skills in biology (14 Marks)

**Question Three**

- a) Describe the four stages of Jean Piagets theory of cognitive development. (15 Marks)
- b) What are the implications of Piagets theory to learning. (5 Marks)

**Questions Four**

- a) Explain **FIVE** qualities of a modern school laboratory. (10 Marks)
- b) Outline **TEN** safety precautions to be observed in the science laboratory (10 Marks)

**Question Five**

- a) Outline EIGHT manipulative skills for assessment in biology practical (8 Marks)
- b) Describe how to prepare the following laboratory reagents
- i) Biuret's reagent
  - ii) Iodine
  - iii) Benedict's solution (12 Marks)

\*\*\*\*\*