

ZOO 100e



ALUPE UNIVERSITY COLLEGE
Bastion of Knowledge...

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**OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH**

UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER EXAMINATION

**FOR THE DEGREE OF BACHELOR
OF EDUCATION (SCIENCE)**

**SCHOOL: EDUCATION AND SOCIAL
SCIENCES**

COURSE CODE: ZOO 100e

COURSE TITLE: CELL BIOLOGY

DATE: 13th December, 2017 TIME: 2.00pm-5.00pm

INSTRUCTION TO CANDIDATES: SEE INSIDE

THIS PAPER CONSISTS OF 21 PRINTED PAGES

For examiner's Use Only

Question	I.E	E.E
CAT		
EXAM		
TOTAL		

PLEASE TURN OVER

Insert the numbers of the questions you have answered in the order done

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Student Admission No.....Exam Card No.....Signature.....

INSTRUCTIONS TO CANDIDATES

1. Write your **Admission Number, Exam Card Number** and **Sign** in the spaces provided at the bottom of each page of the Examination Booklet. **DO NOT** write your name anywhere in this booklet.
2. Write on both sides of the pages.
3. All rough work must be done in the Answer sheets and crossed through.
4. If supplementary pages are used, they must be fastened all together at the end of this Booklet. Supplementary pages should be used only after all the leaves in the booklet have been exhausted.
5. It is a serious examination offence to cheat or to have unauthorized materials including **MOBILE PHONES** (whether on or off) in the examination venue.
6. In no circumstances must Answer Booklet used or unused, be removed from the examination room by a candidate.
7. The Booklet is for **Examination use only** in a designated examination room. Unauthorized possession of the Answer sheets by a student or any other person constitutes an examination irregularity calling for stiff disciplinary action.
8. Do not pluck any page from this Booklet. Any extra/unused answer sheets should be returned to the **Examination Office**.
9. Candidates who come to examination room 30 minutes late will not be allowed to sit for the exam.
10. Candidates will not be allowed to leave the exam room once the exam commences.
11. Candidates are advised that importance is attached by examiners to accuracy and clarity of expression.
12. Committing any form of irregularity is prohibited and shall attract severe disciplinary action in accordance with Alupe University College Examination Regulations.

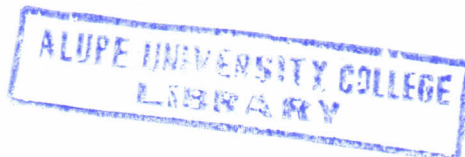
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INSTRUCTION TO CANDIDATES

Answer **ALL** questions from section A and any **THREE** from section B.

Duration of the examination: 3 hours

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SECTION A (24 MARKS)**QUESTION ONE**

- a). Name the types of objective lenses and their respective magnifications (3 Marks)
- b). Define the term resolution (1 Mark)
- c). Outline the cell theory. (1 Mark)
- d). Outline the exceptions to the cell theory. (3 Marks)
- e). Differentiate between passive and active transport (4 Marks)

QUESTION TWO

- a) Using a well labeled diagram, describe a mitochondrion. (4 Marks)
- b) Describe the types of chromosomes on the basis of position of the centromere (4 Marks)
- c) Give an account of the events that occur during anaphase of mitosis of a plant cell (3 Marks)
- d) Name any two locomotory structures in living organisms. (1 Mark)

SECTION B (36 Marks)**QUESTION THREE**

- a). State the contributions of the following scientists to the cell theory. (2 Marks)
 - i). Rudolph Virchow
 - ii). Matthias Schleiden
- b). Outline two roles of meiosis in living organisms. (2 Marks)
- c). Tabulate four differences between mitosis and meiosis of cell division. (8 Marks)

QUESTION FOUR

- a). Clearly point out distinguishing features between prokaryotes and eukaryotes. (6 Marks)
- b). Explain any three significance of osmosis in plant. (6 Marks)

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QUESTION FIVE

- a). Explain the structural composition of the cell wall. (8 Marks)
- b). Outline precautions to be put into consideration why handling and caring of the microscope. (4 Marks)

QUESTION SIX

- a). Distinguish between isotonic, hypertonic and hypotonic solutions (4 Marks)
- b). Discuss any four factors affecting the rate of diffusion. (8 Marks)

QUESTION SEVEN

- a). Write short notes on the following:-
- i. Vacuole (4 Marks)
 - ii. Chromosomes (4 Marks)
- b). Explain the composition of a Gram Positive cell. (4 Marks)