

ZOO 100E



ALUPE UNIVERSITY
COLLEGE

...Bastion of Knowledge...

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OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2018 /2019 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER REGULAR EXAMINATION

FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE

COURSE CODE: ZOO 100E

COURSE TITLE: CELL BIOLOGY



DATE: 19TH DECEMBER, 2018

TIME: 9.00 AM – 12.00 NOON

INSTRUCTIONS TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 3 PRINTED PAGES

PLEASE TURN OVER

ZOO 100E

ZOO 100E: CELL BIOLOGY

STREAM: BED (SCIENCE)

DURATION: 3 Hours

INSTRUCTIONS TO CANDIDATES

- i. Answer **ALL** questions from section A and any **THREE** from section B.
 - ii. Diagrams should be used whenever they serve to illustrate the answer.
 - iii. Do not write on the question paper.
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SECTION A (24 MARKS)

Question One

- a) Distinguish between the following terms:-
- i. Plasmolysis, Osmosis and diffusion (6 Marks)
 - ii. Amoeboid and ciliary movement (2 Marks)
- b) Explain the role of turgor pressure in herbaceous plants. (2 Marks)
- c) What is the role of revolving nose piece of a microscope? (2 Marks)

Question Two

- a) Differentiate between resolution and magnification of a microscope (3 Marks)
- b) Outline the role of microtubules in the movement of secretory vesicles (3 Marks)
- c) Explain how diffusion gradient affect the rate of diffusion (3 Marks)
- d) Give a brief account of how glucose enters the human biceps muscle cell after digestion. (3 Marks)

SECTION B (36 MARKS)

Question Three

- a) Highlight the differences between prokaryotic and eukaryotic cells (6Marks)
- b) Describe the process gastrulation (6 Marks)

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Question Four

- a) Outline three roles of interphase during cell division . (3 Marks)
- b) Point out five differences between mitosis and meiosis processes. (5 Marks)
- c) Outline one function of the following cell structures
 - i. Golgi apparatus (1 Mark)
 - ii. Lysosome (1 Mark)
- d) What is cell specialization? (1 Mark)
- e) Name any one type of specialized cell (1 Mark)

Question Five

- a) Explain how you would prepare a blood smear for observation under a light microscope. (3 Marks)
- b) Give an account of how haemolysis occurs in red blood cells. (3 Marks)
- c) Describe how water is absorbed by plants and its path to the root xylem (4 Marks)
- d) State two characteristics of a germ cell (2 Marks)

Question Six

- a) Describe the cell theory. (5 Marks)
- b) Outline four major lines of evidence that all present living cells have a common origin. (4 Marks)
- c) Distinguish between peroxisomes and glyoxisomes. (3 Marks)

Question Seven

- a) Outline how you would prepare 1% sodium chloride solution for use in physiological experiment given the following atomic masses (sodium=23, chlorine=35.5) (4 Marks)
- b) Discuss the endosymbiont theory (8 Marks)

