



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

DIPLOMA IN FOOD PROCESSING AND QUALITY ASSUARANCE AND  
DIPLOMA SCIENCE LABORATORY AND TECHNOLOGY 16S

AAB 2105: BIOLOGY 1 PAPER 2

**END OF SEMESTER EXAMINATION**

**SERIES:DECEMBER2016**

**TIME:2HOURS**

**DATE:Pick DateDec2016**

## **Instructions to Candidates**

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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## **Question ONE**

a) Differentiate between:

i) Plasmogel and Plasmosol (2mks)

ii) Ectoplasm and endoplasm (2mks)

iii) Rough endoplasmic reticulum and smooth endoplasmic reticulum (4mks)

b) What is cytoplasmic streaming? (1mk)

c) Define the following osmotic solutions, state clearly what happens to the animal cells when placed in each solution?

i) Hypertonic solution

ii) Hypotonic solution

- iii) Isotonic solution (6mks)
- d) State any 5 functions of the cytoplasm. (5mks)
- e) Explain any 5 characteristics of living organisms (5mks)
- f) Briefly discuss the term endocytosis. (5mks)

### **Question TWO**

- a) Differentiate between prokaryote and eukaryote cells (12mks)
- b) List any 3 roles of diffusion to living organism (3mks)

### **Question THREE**

- a) Differentiate between a compound light microscope and electron microscope (5mks)
- b) Differentiate between a plant cell and an animal cell (10mks)

### **Question FOUR**

- a) Draw a well labeled diagram of a plant cell (5mks)
- b) Explain any 5 factors affecting active transport (10mks)

### **Question FIVE**

- a) Discuss any 3 types of microscopes that are used in biological studies. (6mks)
- b) Define the term mutation. (1mk)
- c) Explain any 4 types of mutations (8mks)