TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BTMB/ BMLS

AAB 4104 : CELL BIOLOGY

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date Apr 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

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

Do not write on the question paper.

Question ONE

a) Define these terms

Isotonic solution (1 mark)

Hypertonic solution (1 mark)

Hypotonic solution (1 mark)

Cytokinesis (1 mark)

b) Explain how cell are adapted to survive in a hypotonic environment (3 marks)

c) Describe three types of cell junctions (6 marks)

d) Describe the fluid mosaic model structure of cell membranes (4s marks)

h) With specific examples explain the importance of apoptosis (3 marks)

i) State three functions of glial cells (1.5 marks)

j) Highlight three second messenger molecules (1.5 molecules)

k) Describe two basic cells of the nervous system (3 marks)

l) Highlight five main classes of tissues (2.5 marks)

m) Differentiate between

(i) Uniport (1/2 mark)

(ii) Symport (1/2 mark)

(iii) Antiport (1/2 mark)

Question TWO

Discuss the phases of the cell cycle (20marks)

Question THREE

Discuss

(i) Vesicular transport (15 marks)
(ii) Facilitated diffusion as a method of passive transport (6 marks**)**

Question FOUR

Describe ten does and don'ts of maintaining aseptic conditions in a cell culture laboratory (20 marks)

Question FIVE

(i) Discuss the process of cell signaling (15 marks)

(ii) Illustrate an example of a cytoplasmic response to a signal (5 marks)