



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 do's 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)