



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
FIRST YEAR FIRST SEMESTER**

**SCHOOL OF TOURISM & NATURAL RESOURCE
MANAGEMENT
CERTIFICATE IN TOURISM AND WILDLIFE
MANAGEMENT**

COURSE CODE: CTW 002

**COURSE TITLE: INTRODUCTION TO BIOLOGICAL
SCIENCES 1**

DATE: 29.4.2019

TIME: 8.30 - 10.30AM

INSTRUCTION TO CANDIDATES:

This paper has two sections A & B. Answer Question **ONE** and any other **TWO** Questions

SECTION A: ANSWER QUESTION ONE (30MKS)

QUESTION 1

- a) The studies on cell history have been done by several scientists whose observation has contributed to the modern cell theory. State five principles of modern cell theory **(5mks)**
- b) Differentiate between prokaryotic and eukaryotic cells **(5mks)**
- c) (i) Name four major organic compounds making up cells of organisms. **(4mks)**
- (ii) State **two** functions of each of the four organic compounds named in (i) above **(8mks)**
- d) Identify **four** cell organelles that are only found in a prokaryotic cell and state their functions **(8mks)**

SECTION B: ANSWER ANY TWO QUESTIONS (40MKS)

QUESTION 2

- a) Describe the structure and function of two organelles that are only found in a plant cell and not in animal cell **(6mks)**
- b) Monosaccharides combine to form disaccharides through a process of dehydration synthesis. Using diagrams illustrate the formation of maltose molecule **(4mks)**
- c) (i) Distinguish between saturated and unsaturated fatty acids **(2mks)**
- (ii) Using illustrations where necessary describe the structure and function of lipids **(8mks)**

QUESTION 3

- a) Distinguish between sexual and asexual reproduction **(2mks)**
- b) Describe the three types of asexual reproduction and give an example in each case **(9mks)**
- c) Briefly explain the four levels of proteins **(4mks)**
- d) State and explain the functions of proteins in living organisms **(5mks)**

QUESTION 4

- a) Explain four mechanisms of evolution **(4mks)**
- b) Briefly explain three primary sources of genetic variation in a population **(6mks)**
- c) Using an example explain the meaning of the term coevolution **(2mks)**
- d) With the aid of illustrations distinguish between purines and pyrimidines. Give examples in each case **(5mks)**
- e) State three differences between RNA and DNA **(3mks)**

//END