



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER

**SCHOOL OF NATURAL RESOURCES, TOURISM
AND HOSPITALITY**

CERTIFICATE IN

TOURISM AND WILDLIFE MANAGEMENT

COURSE CODE: CTW 002

COURSE TITLE: BIOLOGICAL SCIENCE I

DATE: 30TH MARCH, 2022

TIME: 1430-1630

INSTRUCTIONS

Answer All Questions In Section A And Any Three In Section B.

Answer Each Question On A Separate Page.

Illustrate Your Answers With Suitable Diagrams And Give Examples Wherever Necessary.

This paper consists of 3 printed pages. Please turn over

SECTION A (25 MARKS). ANSWER ALL QUESTIONS

1. Compare and contrast between prokaryotes and eukaryotes. **(10marks)**
2. Name four major organic compounds making up cells of organisms. **(4marks)**
3. Highlight any **three** names of the persons who made the cell theory a breakthrough. **(3marks)**
4. Give **three** types of lipids. **(3marks)**
5. State three differences between DNA and RNA. **(3marks)**
6. Briefly explain three primary sources of genetic variation in a population. **(3 marks)**
7. Distinguish between a gene and allele **(2marks)**

SECTION B (45 MARKS) ANSWER ANY THREE QUESTIONS

1. "Origin of Life" is a very complex subject, and oftentimes controversial. With details, describe **five** theories of origin of life. **(15marks)**
2. a) How are the following organelles adapted to perform their functions.
 - i. Cell wall
 - ii. Cytoskeleton
 - iii. Golgi apparatus
 - iv. Ribosomes
 - v. Nucleolus
 - vi. Centrioles**(12marks)**
- d) State the **three** premises of the cell theory **(3mks)**
3. Describe in details the **Three** stages of Aerobic cellular respiration. **(15marks)**
4.
 - a) Distinguish between sexual and asexual reproduction. **(2mks)**
 - b) Describe the three types of asexual reproduction and give an example in each case. **(6mks)**
 - c) With reference to advantages and disadvantages only, compare and contrast sexual and asexual reproduction. **(4mks)**
 - (d) compare and contrast between mitotic and meiotic cell division process. **(2mks)**

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