



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR
FIRST YEAR FIRST SEMESTER**

**SCHOOL OF SCIENCE
BACHELOR OF SCIENCE (MICROBIOLOGY) &
BACHELOR OF EDUCATION (SCIENCE)**

COURSE CODE: BOT 1103

**COURSE TITLE: INTRODUCTION TO PLANT
BIOLOGY**

DATE: 2ND DECEMBER, 2019

TIME: 0830 – 1030HRS

INSTRUCTIONS TO CANDIDATES

Answer ANY TEN (10) QUESTIONS

This paper consists of 2 printed pages. Please turn over.

ANSWER ANY TEN QUESTIONS (70 MARKS)

1. Describe the distinguishing features of meristematic cells. **(7 Marks)**
2. Describe the structure and functions of the nucleus. **(7 Marks)**
3. Define mitosis and describe its key phases. **(7 Marks)**
4. Explain the binomial system of nomenclature by using examples and classify an organism. **(7 Marks)**
5. Citing examples, describe the positive economic importance of fungi. **(7Marks)**
6. Describe the stages in the replication cycle of a bacteriophage. **(7Marks)**
7. Describe the structural components of a chloroplast. **(7Marks)**
8. Outline the general characteristics of bryophytes. **(7Marks)**
9. Explain any **THREE** features used in classifying organisms into different taxon. **(7Marks)**
10.
 - a) Describe four factors that affect the rate of diffusion. **(4 Marks)**
 - b) Identify three similarities between facilitated diffusion and active transport. **(3 marks)**
11. Describe the fluid mosaic model of the plasma membrane. **(7 Marks)**
12. Describe the features employed in the classification of algae. **(7 Marks)**
13. Describe the life cycle of a typical moss plant. **(7 Marks)**
14. Outline the procedure of preparing temporary slides of plant tissues. **(7 Marks)**
15.
 - a) Define the following terms in microscopy. **(2 marks)**
 - i. Numerical aperture **(1 mark)**
 - ii. Resolution power **(1 mark)**
 - b) Define plasmodesmata and state their function. **(2 marks)**
 - c) Outline three advantages of using scientific names. **(3 marks)**

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