



MAASAI MARA UNIVERSITY
REGULAR UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
FOURTH YEAR SECOND SEMESTER

SCHOOL OF SCIENCE
BACHELOR OF SCIENCE

COURSE CODE: BOT 412

COURSE TITLE: BIOSYSTEMATICS

DATE: 19TH APRIL 2018

TIME: 0830 - 1030HRS

INSTRUCTIONS TO CANDIDATES

- (a) Answer ALL the Questions in Section A**
- (b) Answer ANY TWO Questions in Section B**

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

SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

1. a) Define “phenotypic plasticity” (1mark)
b) Briefly explain causes of phenotypic plasticity in species. (3marks)
2. Illustrate any three types of ovules. (3marks)
3. Briefly describe any three kinds of point mutations. (3mark)
4. Name the two forms of agamospermy. (2marks)
5. Distinguish between;
a) Character and character state (2marks)
b) Synapomorphy and symplesiomorphy (2marks)
6. State any three advantages of amphimixis. (3marks)
7. Briefly describe any three shapes of pollen apertures. (3marks)
8. Outline the contents of Darwin’s theory of Natural selection. (3marks)
9. Briefly describe the process of microsporogenesis in angiosperms. (3marks)
10. Distinguish between paraphyletic and polyphyletic taxa. (2marks)

SECTION B: Answer Any TWO questions (2X20=40 marks)

11. a) Distinguish between morphological and biological species concepts. (8marks)
b) Describe the phenetic system of classification. (12marks)
12. a) Discuss any five syndromes in zoophily. (10marks)
b) Explain the use of pollen morphology in the study of plant diversity. (10marks)
13. a) Describe the breeding mechanisms that maintain genetic variability in angiosperms. (10marks)
b) Discuss the types of self incompatibility. (10marks)
14. Explain the various mechanisms that maintain distinctiveness of species. (20marks)

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