MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
FOURTH YEAR SECOND SEMESTER

SCHOOL OF SCIENCE
BACHELOR OF SCIENCE

COURSE CODE: BOT 412
COURSE TITLE: BIOSYSTEMATICS

DATE: 17TH APRIL, 2019   **TIME: 1100 – 1300HRS**

INSTRUCTIONS TO CANDIDATES
   (a) Answer **ALL** the Questions in Section A
   (b)   Answer **ANY TWO** Questions in Section B

SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

1. Describe the separation methods in floral organs in plants with self incompatibility system (SI).
   (3marks)
2. Describe a circinotropous ovule.
   (3marks)
3. Explain any three kinds of point mutations.
   (3marks)
4. Distinguish between the two forms of agamospermy.
   (2marks)
5. Distinguish between;
   a) Clade and cladogram.
   (2marks)
   b) Apomorphy and autopomorphy.
   (2marks)
6. State any three advantages of amphimixis.
   (3marks)
7. Distinguish between pericentric and paracentric chromosomal inversions.
   (3marks)
8. Describe any three shapes of pollen apertures.
   (3marks)
9. Outline the types of self incompatibility (SI) in andiosperms.
   (3marks)
10. Describe integuments of ovules in plants.
    (3marks)

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

11. Explain the various reproductive isolating mechanisms among species.

    (20marks)
12. a) Explain the species concepts in biology.
    (8marks)
    b) Describe the phenetic system of classification.
    (12marks)

13. a) Explain any six features of pollen morphology that are useful in the study of plant diversity.
    (12marks)
    b) Discuss the pollination syndromes under entomophily.
    (8marks)

14. a) Describe the various mechanisms that maintain genetic variability in flowering plants.
    (10marks)
    b) Discuss the process of megagametogenesis in flowering plants.

    (10marks)

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