



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2014/2015
DIGITAL SCHOOL OF VIRTUAL AND OPEN LEARNING
SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF ARTS
AGE 807: ECOLOGICAL BIOGEOGRAPHY

DATE: WEDNESDAY, 29TH APRIL 2015

TIME: 2.00 P.M. – 5.00 P.M.

INSTRUCTIONS:

Answer Question ONE and any TWO questions. Use illustrations where appropriate

- 1.a) Explain how the Buffon's law may help explain the modern distribution of flora and fauna. (4 marks)
- b) Explain the relationship between the following:
 - i) Convergence evolution and Biome (4 marks)
 - ii) Ecological niche and Competition. (4 marks)
 - iii) Fire frequency and Serotony. (4 marks)
 - iv) Light intensity and Compensation point. (4 marks)
- c) Explain how the neutral theory may explain ecological patterns in species diversity. (10 marks)
2. Explain how fragmentation of habitats may promote:
 - a) Allopatric speciation. (10 marks)
 - b) Allee effects (10 marks)
3. Describe how ecological biogeographers may utilize distribution patterns of C3 and C4 vegetation types to explain the distribution and dietary behaviours of mammalian herbivores. (20 marks)

4. Explain how the following ecological factors influence woody cover dynamics at local and regional scales. (20 marks)
- a) Topography (5 marks)
 - b) Edaphics (5 marks)
 - c) Precipitation (5 marks)
 - d) Biotic interactions (5 marks)
5. Discuss how we may utilize the knowledge of biological invasions to identify and control potentially invasive species. (20 marks)