

WLM 474E: Landscape Ecology and GIS
MAIN EXAMINATION

MAASAI MARA UNIVERSITY

School of Tourism & Natural Resource Management
Department of Tourism & Wildlife

SECTION A: Answer all questions

1. What is Landscape Ecology (2mks)
2. Define the following terms as used in Landscape ecology (5mks)
 - a) Patch
 - b) Matrix
 - c) Corridor
 - d) Fragmentation
 - e) Connectivity
3. Describe how scale may be considered as a problem as well as an opportunity in landscape ecology (5mks)
4. Describe the concept of landscape heterogeneity and scale (2mks)
5. What is Topology (2mks)
6. Describe how GIS is applied in wildlife management (5mks)
7. Differentiate between raster and vector data models (4mks)

SECTION B: Answer any three questions

8. Describe how the following factors influence landscape patterns (15mks)
 - a) Climate
 - b) Human activities
 - c) Wildlife
9. Discuss the factors that create landscape patterns. How would you rank their relative importance? Do you think this ranking has changed through time? Explain your answers. (15mks)
10. Describe how the concepts of heterogeneity and scale, and patch/matrix, as developed in landscape ecology, have contributed to theory and research. Provide ample examples to illustrate your points (15mks)
11. What is the meaning of the following metrics used in quantifying landscape patterns (15mks)
 - a) Relative richness
 - b) Diversity and Dominance
 - c) Connectivity
 - d) Probability of adjacency
 - e) Contagion