UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT

SBE 305: COMMUNITY ECOLOGY

DATE: APRIL 4, 2018 **TIME: 8:30 -10:30 AM**

INSTRUCTIONS:

Answer any ten (10) questions (7 marks each)

1. Explain the following:
    a) Stage structure
    b) Stage distribution
    c) Stage refuge
    d) Stage partitioning
    e) Cohort competition
2. As a conservation expert, you notice that one of the food chains in an aquatic ecosystem is relatively short. Briefly discuss the possible reasons for the short length.
3. Briefly discuss the niche concept.
4. Describe the predictions of island biogeography.
5. In a forest ecosystem, energy is lost through the food chain. Using an energy flow pyramid, illustrate how this energy is lost assuming 90% energy loss at each trophic level.
6. Outline the diversity components that influence ecosystem functions.
7. Describe the individualistic concept of community structure.
8. Briefly describe the concepts that one would use to study community assembly.
9. Briefly discuss generalist and specialist species.

10. Explain the mechanisms underlying the maintenance of species diversity in the face of strong competitive interactions.
11. Outline the various hypotheses on latitudinal gradient analysis.
12. Explain how species diversity increases towards the equator using the historical perturbation hypothesis.

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