

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

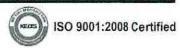
DATE: APRIL 4, 2018

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
- 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.
- Briefly discuss the niche concept.
- 4. Describe the predictions of island biogeography.
- 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.



- 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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