



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (BIOLOGY)

SBT 309: ADVANCED PLANT ECOLOGY

DATE: 16/11/2020

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

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|----|---|-----------|
| a) | Illustrate amensalism in plants | (3 marks) |
| b) | Explain three examples of mutualism in plants | (3 marks) |
| c) | Explain three effects of competition in plants | (3 marks) |
| d) | Differentiate between exploitation and interference | (3 marks) |
| e) | Differentiate between niche specialists and niche generalists | (3 marks) |
| f) | Explain the following terms in plant ecology | (3 marks) |
| | i) ordination | |
| | ii) Species abundance | |
| | iii) Species richness | |
| g) | Explain three biological factors that affect species distribution | (3 marks) |
| h) | State three categories of species in an ecosystem | (3 marks) |
| i) | Explain three environmental gradients that influence biodiversity of plants | (3 marks) |
| j) | Describe types of maps that are used to show species distribution | (3 marks) |

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

Discuss speciation in plants

QUESTION THREE (20 MARKS)

Discuss effects of invasive and alien plants to the ecosystem

QUESTION FOUR (20 MARKS)

Discuss the role of ecologists in restoration of degraded areas

QUESTION FIVE (20 MARKS)

Discuss indirect ordination in biodiversity analysis