



MACHAKOS UNIVERSITY

University Examinations 2019/2020 academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY

SZL 415: ECOLOGY FOR SUSTAINABLE DEVELOPMENT

DATE: 20/1/2021

TIME: 8.30-10.30 AM

INSTRUCTIONS

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

SECTION A

QUESTION ONE. – COMPULSORY (30 MARKS)

- a) List the categories of the scale of understanding sustainability (3 marks)
 - b) Discuss briefly when development activities are considered as non-sustainable (3 marks)
 - c) Outline any three importances of ecosystem goods and services in economic decisions (3 marks)
 - d) Describe the key environmental Strategies that are a prerequisite for ecological sustainability (3 marks)
 - e) Outline the Ecological Models of ecological sound Agriculture (3 marks)
 - f) Outline the factors considered when Selecting livestock breeds/ strains for sustainable organic farming: (3 marks)
 - g) Why should one not advocate for an environmental Impact assessment (EIA) before setting up a development activity. (3 marks)
 - h) Describe the Development impact assessment In the context of the Free Zone Initiative (3 marks)
 - i) Name the main causes of habitat alteration and loss. (3 marks)
 - j) Describe how climate change causes biodiversity loss and habitat alteration (3 marks)
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SECTION B

QUESTION TWO (20 MARKS)

Describe the parameters for low-input technology which promote agro-ecology

QUESTION THREE (20 MARKS)

Describe the Sustainable development goals (SDGs) in relation to ecology

QUESTION FOUR (20 MARKS)

As a coastal zone land manager, describe the guiding principles for ensuring an Integrated Coastal zone management (ICZM)

QUESTION FIVE (20 MARKS)

Giving examples, describe the main groups which ecosystem services can be categorized
