



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL STUDIES (COMMUNITY DEVELOPMENT)

ECD 110: ENVIRONMENTAL INNOVATIONS AND TECHNOLOGIES

DATE: 20/01/2021

TIME: 8.30-10.30 AM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- a) Explain the following terms with reference to environmental technologies and innovations:
- Eco-innovations (2 marks)
 - Eco-efficiency (2 marks)
 - Environmental technologies (2 marks)
 - Process innovations (2 marks)
 - Organizational innovations (2 marks)
- b) As the head of environment management unit in an industrial setting, discuss the practices you would recommend to reduce generation of waste and emissions at the source (10 marks)
- c) Citing relevant examples, discuss the link between environmental innovations and sustainable development (10 marks)

QUESTION TWO (20 MARKS)

- a) Using suitable examples, discuss the key factors affecting the adoption of sustainable environmental technologies in Kenya (10 marks)
- b) Explain the policy instruments that can be adopted to promote development and adoption of

environmental technologies in Kenya
marks)

(10

QUESTION THREE (20 MARKS)

Citing relevant examples, discuss how environmental innovations and technologies can be used in addressing:

- a) Solid waste management (10 marks)
- b) Desertification (10 marks)

QUESTION FOUR (20 MARKS)

Discuss the role of integrated research and development in environmental innovations and technologies

QUESTION FIVE (20 MARKS)

Discuss key steps in the development and implementation of an Environmental Management System (EMS)