



MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

**SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF ENVIRONMENTAL STUDIES AND COMMUNITY DEVELOPMENT**

BACHELOR OF ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)

BACHELOR IN ENVIRONMENTAL SCIENCE

ENS 242: GLOBAL WARMING AND CLIMATE CHANGE

ERC 210: GLOBAL WARMING AND CLIMATE CHANGE

ECD 209: CLIMATE CHANGE AND COMMUNITY LIVELIHOODS

ECD 204: COMMUNITY WATER RESOURCES AND SANITATION MANAGEMENT

DATE: 22/7/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

a) Define the following terms:

- | | |
|---------------------|-----------|
| i. Weather | (2 marks) |
| ii. Climate | (2 marks) |
| iii. Climate change | (2 marks) |
| iv. Emissions | (2 marks) |
| v. Water cycle | (2 marks) |
| vi. Resilience | (2 marks) |
| vii. Vulnerability | (2 marks) |

- b) Differentiate between MITIGATION and ADAPTATION options to climate change (4 marks)
- c) Describe the TWO difference between the two Kyoto Protocol and REDD+ (4 marks)
- d) i What is “the greenhouse effect” and why it is important to life on earth (4 marks)
- ii. List any FOUR (4) greenhouse gases (4 marks)

QUESTION TWO (20 MARKS)

- a) What activities does the acronym REDD+ informally refer to? (10 marks)
- b) Describe FIVE (5) actions are Parties to REDD+ encouraged to take to ensure the success of the initiative? (10 marks)

QUESTION THREE (20 MARKS)

Discuss how climate change will impact humans on Africa.

QUESTION FOUR. (20 MARKS)

Discuss the constraints and opportunities arising from adaptation to climate change for each of these resources

- a) Water (4 marks)
- b) Agriculture (4 marks)
- c) Energy (4 marks)
- d) Transport (4 marks)
- e) Infrastructure (4 marks)

QUESTION FIVE (20 MARKS)

Discuss the different climate change scenarios that can be found under:

- a) Special Report on Emissions Scenarios (10 marks)
- b) Relative Concentration Pathways (RCPs) (10 marks)