



MACHAKOS UNIVERSITY

University Examinations For 2018/2019 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL SCIENCES

ENS 245: ENVIRONMENTAL HYDROLOGY

DATE: 3/5/2019

TIME: 2:00 – 4:00 PM

INSTRUCTIONS: Answer question ONE and TWO other questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Using an illustration, explain the relevance of hydrology in environmental management
(10 marks)
- b) Briefly discuss any **FIVE** factors contributing to groundwater degradation in Kenya.
(10 marks)
- c) Discuss any **FIVE** ways in which anthropogenic activities adversely affect the hydrological cycle
(10 marks)

QUESTION TWO (20 MARKS)

- a) Using an example, explain the importance of hydrological data in environmental management.
(8 marks)
- b) Describe the key principles underlying the water balance concept and indicate its importance to the environment
(12 marks)

QUESTION THREE (20 MARKS)

Suppose you have been appointed to advise your Governor on sustainable management of water resources in the County. Give a detailed account of the advise you will give.

QUESTION FOUR (20 MARKS)

Discuss any **FIVE** factors contributing to surface water pollution and suggest how to deal with the problem.

QUESTION FIVE (20 MARKS)

Discuss any **FOUR** ways in which a named hydrological hazard can be mitigated.