



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL SCIENCE

ENS 245: ENVIRONMENTAL HYDROLOGY

DATE: 27/11/2020

TIME: 8.30-10.30 AM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- a) Explain, using an illustration, the **relevance** of Environmental Hydrology in natural resources management (10 marks)
- b) Highlight any **five** factors contributing to groundwater pollution in Kenya (10 marks)
- c) Briefly discuss various ways in which anthropogenic activities adversely affect the hydrological cycle of a river catchment (10 marks)

QUESTION TWO (20 MARKS)

Using an illustration, discuss the importance of groundwater in socioeconomic development of your County

QUESTION THREE (20 MARKS)

Suppose you have been appointed as the County Chief in charge of the Environment and Water Resources Development in your County, discuss the steps you would take to ensure sustainable surface water resources management in the County

QUESTION FOUR (20 MARKS)

Discuss various strategies you would employ to mitigate the impacts of a **named** hydrological hazard in a given area

QUESTION FIVE (20 MARKS)

- a) Using an example, critically analyse the significance of hydrological data in environmental management in an area (10 marks)
- b) Explain how you would apply the water balance concept to assess the quality of the environment in a water catchment (10 marks)