



UNIVERSITY OF EMBU

2018/2019 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
WATER RESOURCE MANAGEMENT

AWM 309: ECONOMICS OF WATER RESOURCES

DATE: APRIL 4, 2019

TIME: 2:00-4:00PM

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions

QUESTION ONE (30 MARKS)

- a) Water is a critical economic resource in the development efforts of Embu County. On the basis of this brief, **justify** the application of economic principles in water resources management (6 marks)
- b) Using specific examples, **illustrate** the link between water resources and the economy of a county of your choice (6 marks)
- c) Water scarcity is becoming a global concern with the advent of climate change and hence water allocation is taking a centre stage in international discourse. **Explain** 3 (three) objectives of prudent water resources allocation (6 marks)
- d) The key operative provisions of water allocation plans or agreements are those that clearly define the entitlements of different regions and water users. **Explain** any 3 (three) approaches you would recommend in defining water entitlements for a water basin of your choice. (6 marks)



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Knowledge Transforms



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- e) Water is an important input into various economic activities and hence the need to estimate its economic contribution. **Explain** any 3 (three) economic valuation techniques applied in estimating the economic value of water in agricultural development (6 marks)

QUESTION TWO (20 MARKS)

You have been appointed as a Lead Water Resources Development Consultant by the Embu County Government. One of your tasks is to develop a concept note outlining resource mobilization to support water resources development and the conservation of the associated catchment areas. One such source of funds would be the 'Payment for Environmental/Ecosystem Services (PES)' by the various beneficiaries. On the basis of this brief,

- a) **Describe** the process you would apply to increase the chances of your concept note being adopted by the Embu County Government (8 marks)
- b) Briefly **describe** what you understand by the term 'Payment for Ecosystem/Environmental Services Schemes' (4 marks)
- c) Using specific examples, **discuss** the 5 (five) steps involved in the design and implementation of PES Schemes (8 marks)

QUESTION THREE (20 MARKS)

Water resources policy formulation and legislation normally takes along time to finalize in most developing countries including Kenya. A number of factors have been associated with the observed delays. On this basis,

- a) **Explain** four (4) policy objectives in the agricultural sector in Kenya (8 marks)
- b) **Outline** four (4) constraints that face efficient and effective policy formulation and legislation in the water sector in Kenya (4 marks)
- c) **Explain** how the constraints identified in (a) above may be overcome (8 marks)



QUESTION FOUR (20 MARKS)

As a water resources development expert, you are expected to advice various county governments in Kenya on the current global and regional discourse on water resources. Using the Nile Basin Water and the associated Initiatives (NBI), you have been invited to make a presentation to the members of County Assemblies in Kenya whose counties have an influence on the Nile Waters. On the basis of this brief,

- a) **Explain** the influence these counties have on the Nile Waters (6 marks)
- b) **Outline** the structure of the concept note that you will present (6 marks)
- c) **Demonstrate** the relevance of 2 current global water issues that the County Assemblies should be cognizant of (8 marks)

QUESTION FIVE (20 MARKS)

Incentive measures are a role to play in promoting sustainable water resources development in different countries in the World. Given the constraints faced in Kenya on promoting sustainable water resource management, there is the need to introduce and implement feasible incentive measures. Based on this information;

- a) State and describe four (4) types of incentive measures applicable to sustainable management of water resource management in Kenya (8 marks)
- b) State four characteristics of an efficient incentive measure (4 marks)
- c) State and briefly describe four (4) constraints faced in the design and implementation of incentive measures in water management (8 marks)

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