



“Investing in Africa’s Future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NANE 403: MANAGEMENT OF DRAINAGE BASINS AND WATER RESOURCES

END OF FIRST SEMESTER EXAMINATION

NOVEMBER 2025

LECTURER: MS M. C. KUREHWATIRA

DURATION: 3 HRS

INSTRUCTIONS

Answer all questions in Section A and any **three** from Section B
Section A carries **40 marks** and each question in Section B carries
20 marks.

Section A ANSWER ALL QUESTIONS [40 MARKS]

Question 1

- a. With the aid of a flow diagram, describe the hydrological cycle. **[10 marks]**
- b. Discuss the importance of drainage basins in management of water resources in Africa. **[10 marks]**
- c. Describe, using relevant examples, the distribution of water resources in Africa. **[10 marks]**
- d. Assume the role of a water resources manager in your country. Discuss the three water resources management objectives and justify each objective. **[10 marks]**
- [40 marks]**

SECTION B: ANSWER ANY THREE QUESTIONS [60 marks]

Question 2

Using relevant examples, discuss the five challenges facing water resource management in Africa. **[20 marks]**

Question 3

Assume you are a water resources expert tasked with designing a new water management project for a rural community in your country. Discuss how you would apply the core principles of Integrated Water Resources Management (IWRM) to ensure sustainable, equitable, and participatory water use. **[20 marks]**

Question 4

Assume you are a water resources consultant in a drought-prone region in Africa tasked with developing a strategic water security plan. Discuss how you would address the core attributes of water security within the context of this region. **[20 marks]**

Question 5

Assuming you are an international water resources manager, analyse five key components of water resources management that you would prioritise to address the water challenges facing Africa. **[20 marks]**

Question 6

Much of Africa's water crisis stems from economic water scarcity rather than physical scarcity. Evaluate the impacts of economic water scarcity on health, food security, economic development, and environmental sustainability in Africa. **[20 marks]**

END OF EXAMINATION PAPER