



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS**

**2020/2021 ACADEMIC YEAR**

**THIRD YEAR SECOND SEMESTER**

**SCHOOL OF TOURISM NATURAL RESOURCES,  
TOURISM AND HOSPITALITY**

**BACHELOR OF SCIENCE (ENVIRONMENTAL  
BIOLOGY AND HEALTH)**

**COURSE CODE: EBH 3226**

**COURSE TITLE: FRESHWATER ECOLOGY  
AND CONSERVATION**

**DATE: 15<sup>TH</sup> OCTOBER, 2021**

**TIME: 1430 - 1630HRS**

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**INSTRUCTIONS TO CANDIDATES**

**ATTEMPT ALL QUESTIONS IN SECTION A AND ANY 3 IN SECTION B**

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Support your answers with relevant examples and illustrations and clearly show your calculations, where relevant.

*This paper consists of 2 printed pages. Please turn over*

## **SECTION A (25 MARKS)**

**Attempt ALL questions in this section.**

1. Name FIVE plants found in freshwater in Lake Victoria. Give their adaptations for life in a freshwater environment **(5 marks)**
2. List the main stages recognized in the ecology of a river. In each case mention characteristic plants and /or animals **(5marks)**
3. List methods used to perform a biological assessment in freshwater ecosystems **(5marks)**
4. Describe what turbidity is, what causes it (give one example caused by humans and one natural cause), and how increased turbidity affects aquatic species and humans **(5marks)**
5. Many people enjoy swimming in lakes and rivers in the summer, but sometimes the water can contain high quantities of a biological contaminant. Local health units routinely sample water at the beaches for this parameter. State what this parameter is, and its upper limit at which point it becomes a health concern and the water is considered unsafe for swimming. Explain what might cause the water to contain high levels of this parameter **(5marks)**

## **SECTION B (Attempt any THREE questions)**

6. Discuss the main factors influencing abundance and distribution of benthic macroinvertebrates in streams and rivers and the adaptations of invertebrates to fast flowing waters **(15 marks).**
7. (i) Who has the mandate for freshwater ecosystems conservation in Kenya **(3 marks)**  
(ii) Discuss conservation measures for freshwater ecosystems that have been taken by the above (i) said bod(ies)y **(12 marks)**
8. Discuss in detail the causes, effects and control measures of eutrophication **(15 marks).**
9. Citing specific scenarios, discuss how an integrated river basin approach can be employed for sustainable development in the Mara River Basin (MRB) **(15 marks)**

**\*\*\*\*\* END OF EXAM QUESTIONS\*\*\*\*\***