



FACULTY	AGRICULTURE, ENGINEERING AND NATURAL SCIENCES
SCHOOL	SCIENCE
DEPARTMENT	ENVIRONMENTAL SCIENCE
SUBJECT	ECOLOGICAL FIELD TECHNIQUES
SUBJECT CODE	EBL3632
DATE	JANUARY 2023
DURATION	3 Hours
MARKS	100

SUMMER TERM EXAMINATION

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This examination paper consists of 3 pages (including the front page)

Instructions

- Answer **all** questions from Section A (**Total 70 marks**)
- Answer **only 1** question from Section B (**Total 30 marks**)
- The use of scientific calculators is allowed

SECTION A

Answer **all** questions from this section

Question 1 [20 marks]

- 1.1. Describe what a beating tray is, how it is used, what organisms are collected with it and give advantages of this particular collection method. (7)
- 1.2. Explain how *Utricularia* spp. obtain nutrients from the aquatic ecosystem. (3)
- 1.3. Describe the method used for sampling phytoplankton. (10)

Question 2 [20 marks]

- 2.1. Name four live trapping techniques for reptiles and amphibians and specify the type of organisms they are most likely to trap. (8)
- 2.2. Why is it necessary/ important to randomise sampling? (6)
- 2.3. Discuss the advantages and disadvantages of longline fishing. (6)

Question 3 [30 marks]

- 3.1 Marine fish play a very important role in the Namibian economy. Trawling is one of the methods used by fishing companies for harvesting marine fish. Explain this method using different types of trawls. (12)
- 3.2 Explain the method you would follow to estimate the butterfly population size in an open area. (8)
- 3.3 List the information you need to record when sampling zooplankton. (6)
- 3.4 Explain the differences between a biological population and a statistical population, supported with an example. (4)

SECTION B

Answer only **one** question from this section

Question 1 [30 marks]

Describe in detail (including equipment and training) the health and safety considerations you need to keep in mind when sampling in an aquatic ecosystem. Discuss this in relation to sampling from a shore, lake or along the coast, from a boat and from rivers and streams.

Question 2 [30 marks]

You have been requested to study the abundance, cover and distribution of the submerged aquatic plant species in the Von Bach Dam and in the area near Rundu in the Kavango River. Explain in detail the different methods you will use to record your data.

*****END OF EXAMINATION *****