



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

SCHOOL OF AGRICULTURE AND NATURAL RESOURCE SCIENCES

DEPARTMENT OF NATURAL RESOURCES SCIENCES

QUALIFICATION : BACHELOR OF NATURAL RESOURCES MANAGEMENT	
QUALIFICATION CODE: 07BNRS	LEVEL: 7
COURSE CODE: ZLY621S	COURSE NAME: ZOOLOGY 2
DATE: NOVEMBER 2024	
DURATION: 3 HOURS	MARKS: 150

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Mrs. Gertruida Louisa Theron
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INSTRUCTIONS
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. Examination question paper
2. Answering book
3. Calculator and Ruler

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

SECTION A: SHORT QUESTIONS (Terminology)**[30 MARKS]****QUESTION 1**

Give the correct scientific term for each of the following ethological descriptions.

[10]

- 1.1 Living in trees most of the time, e.g. vervet monkeys.
- 1.2 Unselfish behaviour at the cost of an animal done to benefit another, e.g. vampire bats sharing blood.
- 1.3 A mating system where males stake out neighbouring small territories within a larger mating area into which females move during the rut, e.g. red lechwe on floodplains.
- 1.4 The study of behaviour of animals in their natural habitat.
- 1.5 A group of animals with no social structure, or those in the process of forming such a group, e.g. migrating wildebeest or large herds of springbok grazing.
- 1.6 The use of urine, dung or glandular secretions to mark an object or partner to show ownership or declare presence by smell.
- 1.7 Aggressive behaviour directed towards an inanimate object or an inferior individual when the individual evoking the behaviour is too strong, too dangerous, or too unapproachable to be attacked directly. (2 words)
- 1.8 The occurrence of two or more different phenotypes existing in the same population of a species.
- 1.9 Vertebrates that spend all, or most of their lives underground.
- 1.10 Study of the role of biotic and abiotic interactions that influence animal distributions. (2 words)

QUESTION 2

Give the scientific name of each of the following mammals (spelling counts).

(4)

- 2.1 Dassie
- 2.2 Pangolin
- 2.3 Suricate
- 2.4 Blue wildebeest

Give the super cohort **and** order to which each of the following mammals belongs (spelling counts).**(4)**

- 2.5 *Loxodonta africana*
- 2.6 *Papio ursinus ursinus*
- 2.7 *Ceratotherium simum*
- 2.8 *Lycaon pictus*

[8]**QUESTION 3**Make use of appropriate examples to explain each of the following terms.

- 3.1 Prehensile (2)
- 3.2 Interdigital (2)
- 3.3 Innate (2)
- 3.4 Agonistic behaviour (2)
- 3.5 Pre-adaptation (2)
- 3.6 Scansorial (2)

[12]

SECTION B: LONGER QUESTIONS (Ethology)**[60 MARKS]****QUESTION 4**

- 4.1 Describe how suricates react when threatened (Anti-predator behaviour). (4)
- 4.2 Discuss the social organisation of *Phacochoerus africanus*. (4)
- 4.3 Name 2 differences between the true seal (Phocidae) and the fur seal (Otariidae). (2)
- [10]**

QUESTION 5

Make use of specific examples to explain how animals mark/proclaim/advertise their territories by using the following:

- 5.1 Visual communication (1 example) (2)
- 5.2 Tactile communication (1 example) (2)
- 5.3 Olfactory communication (2 examples) (4)
- 5.4 Auditory communication (1 example) (2)
- [10]**

QUESTION 6

- 6.1 Make use of a Namibian example to explain the solitary/non-territorial social organization found in some antelope species. (4)
- 6.2 All but 2 tribes of African bovids are "hidere"
- (a) Name the two African bovids whose calves are not hidden. (1)
- (b) Write a short paragraph on "hidere". (5)
- [10]**

QUESTION 7

- 7.1 Compare the reproduction strategies of *Crocota crocuta* and *Lycaon pictus* by pointing out the similarities and differences. (12)
- 7.2 Give 8 characteristics of primates that make them unique and quite different from other mammals. (NOT general mammalian characteristics!) (8)
- [20]**

QUESTION 8

In TABULAR form, explain the differences between plains zebra and mountain zebra. **[10]**

SECTION C: LONGER QUESTIONS (Adaptations)**[45 MARKS]****QUESTION 9**

Use appropriate examples to explain the difference between Adaptive radiation and Adaptive convergence. **[10]**

QUESTION 10

You are working in an Animal Factory. You were given the opportunity to design a well-adapted **fossorial** animal. Provide 10 characteristics that you would put into your design and explain the need/importance for each characteristic. **[20]**

QUESTION 11

- 11.1 To live permanently in water an animal must overcome various problems, for example, be able to reduce the resistance that water offers. List 5 other “problems” that aquatic animals must overcome. (5)
- 11.2 Name 5 adaptations of birds obtaining their prey by “fishing” (5)
- 11.3 The Cape Sparrow has various adaptations to make it a good flyer. What advantages does this have for the sparrow? (5)
- [15]**

SECTION D: LONGER QUESTIONS (Zoogeography)**[15 MARKS]****QUESTION 12**

- 12.1 In plate tectonics, the lithospheric plates slide on the asthenosphere. These plates move in 3 ways. Discuss these 3 types of boundaries and what each creates/causes. Make use of drawings to further clarify your answers. (9)
- 12.2 The mid-oceanic ridge is an example of which one of the above-mentioned types of boundaries. (1)
- 12.3 State in which zoo-geographic region each of the following animals occurs naturally: (5)
- (a) Lemurs
 - (b) Wild boars
 - (c) Sloths
 - (d) Cassowaries
 - (e) Mountain goats
- [15]**

TOTAL [150]