



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCES MANAGEMENT (NATURE CONSERVATION)	
QUALIFICATION CODE: 07BNTC	LEVEL: 7
COURSE CODE: ALS520S	COURSE NAME: ANIMAL STUDIES 1
DATE: January 2019	
DURATION: 3 HOURS	MARKS: 150

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Ms. G. Morland Ms. E. Nghalipo
MODERATOR:	Mr. H. Tjikurunda

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

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

SECTION A
Terminology

Question 1

Provide the correct term for each of the following statements:

- 1.1 A formal taxonomic group at any level. (1)
 - 1.2 Male and female sex cells (e.g. sperm and eggs) (1)
 - 1.3 Organism with three germ layers. (1)
 - 1.4 Hard outer covering that protects against digestion while imbedded in a host. (1)
 - 1.5 Special segment in the body of an Annelid that aids reproduction. (1)
 - 1.6 To give birth to an internally fertilized egg. (1)
 - 1.7 The sexual maturity of an animal while it is still mainly in a larval state. (1)
 - 1.8 Mating in birds where one male has more than one female partner. (1)
 - 1.9 Diverse forms of teeth. (1)
 - 1.10 Twisting of the visceral mass in gastropoda. (1)
- [10]**

Question 2

Each of the characteristics stated represent a specific class. Based on the characteristics state the name of that specific class.

- 2.1 Net nervous system, sac-like digestive cavity, one opening surrounded by tentacles (1)
 - 2.2 Endothermic, two limbs, feathers (1)
 - 2.3 Predators, dorso-ventrally flat, poison claws (1)
 - 2.4 Dorsoventrally flattened, terminal suckers, clitellum only in breeding season (1)
 - 2.5 Ectothermic, webbed feet, moist smooth skin (1)
- [5]**

Question 3

State the meaning of each of the words below:

- 3.1 Nephridia (1)
 - 3.2 Precocial (1)
 - 3.3 Phagocytosis (1)
 - 3.4 Monotreme (1)
 - 3.5 Parthenogenesis (1)
- [5]**

Sub-total [20]

SECTION B
Invertebrata

Question 4

- 4.1 Compare the feeding techniques of Porifera and Coelenterata. (4)
 - 4.2 Explain the feeding strategy of the class Turbellaria. (6)
 - 4.3 Discuss the ecological importance of class Turbellaria. (3)
 - 4.4 List three ways in which Platyhelminths are more advanced than the Coelenterata. (3)
- [16]**

Question 5

- 5.1 Three distinctive characteristics of molluscs are the presence of a shell, a radula and a foot. Compare these characteristics between the Bivalvia and Cephalopoda. (6)
 - 5.2 Discuss two differences between phylum Annelida and phylum Mollusca (4)
 - 5.3 Tabulate the differences between the clitellum, suckers and feeding for the Polycheata, Oligochaeta and Hirudinae (9)
- [19]**

Question 6

- 6.1 Name the two subphyla within the Arthropoda and state how to distinguish between these two subphyla. (3)
 - 6.2 Discuss four reasons why arthropods are economically important. (4)
 - 6.3 Distinguish between the insect orders Coleoptera, Diptera and Lepidoptera based on their characteristics, ecological and /or economic importance of each. (9)
- [16]**

Question 7

- 7.1 Compare three characteristics of the sea urchin and the sand dollar. (6)
 - 7.2 Compare the position of the anus between the classes Asterozoa, Echinozoa and Holothurozoa. (3)
- [9]**

Sub-total [60]

**SECTION C
Chordata**

Question 8

- 8.1 How do Chondrichthyes differ from Osteichthyes with regard to:
 - (a) Skeleton (1)
 - (b) Fertilization (1)
 - (c) Gills (2)
 - 8.2 List the distinguishing characteristics of the chordates. (4)
 - 8.3 Explain why most of the fish are darker above than below? (2)
- [10]**

Question 9

- 9.1 List four characteristics that make amphibians more advanced than fish. (4)
 - 9.2 Illustrate the life cycle of the order Anura and discuss how the order Gymnophiona's biology differs from the Anura. (6)
- [10]**

Question 10

- 10.1 Compare the tree types of Testudines based on their biological and ecological characteristics. (6)
- 10.2 Copy the table below into your script and complete the information.

	Amphisbaenids	Legless skinks	Snakes
Body shape			
Eye structure			

(6)
[12]

Question 11

- 11.1 Discuss the difference between precocial and altricial birds and give an example of each. (3)
 - 11.2 Compare monocular and binocular vision stating an example of birds with this vision and the reason they have this vision. (4)
- [7]**

Question 12

- 12.1 Discuss three methods that mammals use to deal with high temperatures (heat stress). (6)
- 12.2 Explain why marine mammals have no sweat glands while terrestrial mammals have. (4)

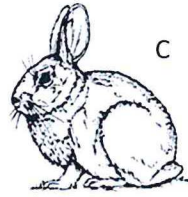
- 12.3 Which 2 features make mammals unique? (2)
 12.4 List three characteristics that both birds and mammals share. (3)
 12.5 Why does a mammal need to eat more food than a reptile of similar size? (2)
 12.6 Name the mammalian order to which each of the following animals belong. (4)



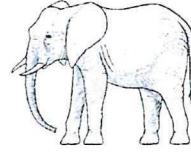
A



B



C



D

- 12.7 Give **ONE** example of an animal that is; (3)
 (a) Monotremes
 (b) Marsupials
 (c) Placental

- 12.8 What is the role of a kidney? (1)
[25]

Sub-total [64]

**SECTION D
 Relationships**

Question 13

- 13.1 Discuss the meaning of an intra-specific interaction and give an example found in nature. (2)
 13.2 Compare commensalism and mutualism giving an example of each. (4)

Sub-total [6]

TOTAL [150]