



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCE MANAGEMENT (NATURE CONSERVATION)	
QUALIFICATION CODE: 07BNTC	LEVEL: 7
COURSE CODE: ALS520S	COURSE NAME: ANIMAL STUDIES 1
SESSION: JANUARY 2020	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 150

SUPPLEMENTARY / SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	MS GAIL MORLAND
MODERATOR:	MR. H. TJIKURUNDA

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. All written work MUST be done in blue or black ink
2. No books, notes and other additional aids are allowed

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

SECTION A

1. Provide a word/phrase that matches the description.
 - 1.1 A group of individuals which are naturally reproductively isolated from other such groups. (1)
 - 1.2 Reproduction that takes place in the absence of a fertilized ovum. (1)
 - 1.3 Nervous system divided into five parts. (1)
 - 1.4 Venom that attacks the central nervous system and starts to affect breathing, speaking and muscle movement. (1)
 - 1.5 Animals active during daylight hours. (1)
 - 1.6 Interactions between organisms of the same species. (1)
 - 1.7 Pouch at the beginning of the large intestine in Mollusca. (1)
 - 1.8 Division of the body into similar parts or segments. (1)
 - 1.9 Long pointed terminal structure. (1)
 - 1.10 Ear drum membrane used for hearing in amphibians. (1)

[10]
2. Define the following words/phrases.
 - 2.1 Diploblastic (1)
 - 2.2 Holometabolous (1)
 - 2.3 Neoteny (1)
 - 2.4 Incisors (1)
 - 2.5 Echolocation (1)
 - 2.6 Mutualism (1)
 - 2.7 Scansors (1)
 - 2.8 Prostomium (1)
 - 2.9 Chitin (1)
 - 2.10 Lateral line (1)

[10]
3. Identify the class/order/phylum of animals below based on their distinguishing characteristics:
 - 3.1 Lowest animals with definite tissues and stinging cells. (1)
 - 3.2 Dorso-ventrally flattened, unsegmented worms that have eye-spots. (1)
 - 3.3 Segmented worms that use setae for movement and are covered in a cuticle. (1)
 - 3.4 Swimming predators with a foot divided into tentacles and closed circulatory systems. (1)
 - 3.5 Long legged marine animals with 4-6 pairs of legs that predate on small sedentary organisms. (1)
 - 3.6 Jawless fish where the stomach is absent. (1)
 - 3.7 Terrestrial quadrupeds with moveable eyelids and the ability to shed their tail. (1)
 - 3.8 Endothermic animal with two pairs of limbs and light bones. (1)
 - 3.9 A nocturnal mammal that has wings made of stretched leathery membrane. (1)
 - 3.10 Marine herbivores with pectoral fins paddle-like and a large horizontally flattened tail used for propulsion. (1)

[10]

SECTION A: [30]

SECTION B

1. Discuss five characteristics of the porifera and name one example of a class of porifera. (6)
2. List the adjustments that Platyhelminths made to adapt to a parasitic lifestyle. (6)
3. Compare the Nematoda and Annelida based on their segmentation and reproductive capabilities. (4)
4. Copy and complete the table below into your answer book. (8)
5. Compare the feeding strategies of Oligocheata and Hirudinae which are both classes of the Annelida. (8)
6. Discuss Five characteristics of the class Insecta and three ways in which insects have specialised their body structures to colonise so many ecosystems on the planet. (8)
7. Compare the arm structures for all five classes of the Echinodermata. (5)
8. Tabulate three differences between Chondrichthyes and Osteichthyes. (6)
- 9.1 Discuss four challenges chordate evolution experiences because of movement onto land. (4)
- 9.2 State the difference between hibernation and aestivation and discuss what happens to the amphibian during this period. (4)
- 10.1 Testudines are a type of reptile found in some ecosystems. Provide a comparison of the differences found between the three Testudine groups. (6)
- 10.2 Snakes and lizards differ in certain characteristics. Copy and complete the following table into your answer book. (4)
- 11.1 State the main difference between reptiles and birds and discuss two advantages and two disadvantages of this difference. (5)
- 11.2 Discuss thermoregulation in birds. (4)
- 12.1 Discuss four characteristics that differ between birds and mammals. (8)
- 12.2 How do mammals maintain their high metabolic rates? (4)

SECTION B: [90]

SECTION C

1. Chordates share similar characteristics when it comes to the presence of a notochord a dorsal nerve cord, gill slits and a tail. Heart structure and the outer protective covering of the skin changes as chordates evolve from fish to mammals. Discuss these changes and how this affected the function of these different animals. (20)

2. Tabulate a comparison between Porifera, Cnidaria, Mollusca, Arthropoda and Echinodermata, where you compare the distinctive features of each animal, the symmetry, level of organisation and digestive system.

(10)

SECTION C: [30]

TOTAL [150]

4. Copy and complete the table below into your answer book.

(8)

	Monoplacophora	Gastropoda	Cephalopoda	Bivalvia
Radula (present/absent)				
Shape of movement appendage				