FACULTY	**SCIENCE**
DEPARTMENT	**ZOOLOGY**
MODULE	**ZOO 2B20 & ZOO22B2: Vertebrate Anatomy, Function & Evolution**
CAMPUS	**APK**
SEMESTER	**Second**
EXAM	**November 2019**

DATE: 25 November 2019	**SESSION: 12:30-14:30**
ASSESSOR	**PROF. J.F. DURAND**
INTERNAL MODERATOR	**DR. L. NEETHLING**
EXTERNAL MODERATOR	**N/A**
DURATION: 2 HOURS	**MARKS: 100**

NUMBER OF PAGES INCLUDING THIS ONE: 2

INSTRUCTIONS: Answer ALL the questions

Question 1.
Name 4 scientists who remarked on the similarities between non-human primates and humans before Charles Darwin was born.

(2)

Question 2.
Indicate by means of a diagram the development of a variety of organs from the embryonic ectoderm.

(16)

Question 3.
Indicate by means of labelled illustrations the transformation of the free-living larva to the sessile adult in the Ascideacea. Make short notes to describe the major transformations which occur at each stage and label the morphological characteristics of only the larva and the adult in detail.

(15)

Question 4.
Indicate by means of a labelled illustration the blood vascular system including the major blood vessels and the organs they drain and supply with blood in the body of a shark.

(12)

Question 5.
Basal tetrapods were faced with certain obstacles that had to be overcome before they could become amphibious. Discuss he evolutionary innovations that enabled them to move from water to land.

(15)

Question 6.
Describe the process of foregut fermentation in the ruminants.

(20)

Question 7.
List the cranial nerves (numerals and names) of mammals and the structures innervated by these nerves in table form.

(20)

Total 100