Nha Trang University
Faculty of Foreign Languages

Mid-term Test
Subject: Reading 3
Time: 60 minutes

Student's name: ……..…….....…. Date of birth: .....
Student number: ……..... Class: ……..……..

READING PASSAGE 1

The History of the Tortoise

If you go back far enough, everything lived in the sea. At various points in evolutionary history, enterprising individuals within many different animal groups moved out onto the land, sometimes even to the most parched deserts, taking their own private seawater with them in blood and cellular fluids. In addition to the reptiles, birds, mammals and insects which we see all around us, other groups that have succeeded out of water include scorpions, snails, crustaceans such as woodlice and land crabs, millipedes and centipedes, spiders and various worms. And we mustn't forget the plants, without whose prior invasion of the land none of the other migrations could have happened.

Moving from water to land involved a major redesign of every aspect of life, including breathing and reproduction. Nevertheless, a good number of thoroughgoing land animals later turned around, abandoned their hard-earned terrestrial re-tooling, and returned to the water again. Seals have only gone part way back. They show us what the intermediates might have been like, on the way to extreme cases such as whales and dugongs. Whales (including the small whales we call dolphins) and dugongs, with their close cousins the manatees, ceased to be land creatures altogether and reverted to the full marine habits of their remote ancestors. They don't even come ashore to breed. They do, however, still breathe air, having never developed anything equivalent to the gills of their earlier marine incarnation. Turtles went back to the sea a very long time ago and, like all vertebrate returnees to the water, they breathe air. However, they are, in one respect, less fully given back to the water than whales or dugongs, for turtles still lay their eggs on beaches.

There is evidence that all modem turtles are descended from a terrestrial ancestor which lived before most of the dinosaurs. There are two key fossils called Proganochelys quenstedti and Palaeochersis talampayensis dating from early dinosaur times, which appear to be close to the ancestry of all modem turtles and tortoises. You might wonder how we can tell whether fossil animals lived on land or in water, especially if only fragments are found. Sometimes it's obvious. Ichthyosaurs were reptilian contemporaries of the dinosaurs, with fins and streamlined bodies. The fossils look like dolphins and they surely lived like dolphins, in the water. With turtles it is a little less obvious. One way to tell is by measuring the bones of their forelimbs.

Walter Joyce and Jacques Gauthier, at Yale University, obtained three measurements in these particular bones of 71 species of living turtles and tortoises. They used a kind of triangular graph

paper to plot the three measurements against one another. All the land tortoise species formed a tight cluster of points in the upper part of the triangle; all the water turtles cluster in the lower part of the triangular graph. There was no overlap, except when they added some species that spend time both in water and on land. Sure enough, these amphibious species show up on the triangular graph approximately half way between the 'wet cluster' of sea turtles and the 'dry cluster' of land tortoises. The next step was to determine where the fossils fell. The bones of P. quenstedti and P. talampayensis leave us in no doubt. Their points on the graph are right in the thick of the dry cluster. Both these fossils were dry-land tortoises. They come from the era before our turtles returned to the water.

You might think, therefore, that modem land tortoises have probably stayed on land ever since those early terrestrial times, as most mammals did after a few of them went back to the sea. But apparently not. If you draw out the family tree of all modem turtles and tortoises, nearly all the branches are aquatic. Today's land tortoises constitute a single branch, deeply nested among branches consisting of aquatic turtles. This suggests that modem land tortoises have not stayed on land continuously since the time of P. quenstedti and P. talampayensis. Rather, their ancestors were among those who went back to the water, and they then re- emerged back onto the land in (relatively) more recent times.

Tortoises therefore represent a remarkable double return. In common with all mammals, reptiles and birds, their remote ancestors were marine fish and before that various more or less worm-like creatures stretching back, still in the sea, to the primeval bacteria. Later ancestors lived on land and stayed there for a very large number of generations. Later ancestors still evolved back into the water and became sea turtles. And finally they returned yet again to the land as tortoises, some of which now live in the driest of deserts.

Questions 1-4

Answer the questions below. Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

1. Which **TWO** processes are mentioned as those in which animals had to make big changes as they moved onto land?

.....

2. Which animals might ichthyosaurs have resembled?

.....

3. What had to transfer from sea to land before any animals could migrate?

.....

4. Which physical feature. possessed by their ancestors, do whales lack?

.....

Questions 5-7

Do the following statements agree with the information given in Reading Passage 1? Write:

TRUE if the statement agrees with the information

FALSE if the statement contradicts the information

NOT GIVEN if there is no information on this more than once.

..... 5. It is always difficult to determine where an animal lived when its fossilized remains are incomplete.

..... 6. Turtles were among the first group of animals to migrate back to the sea.

..... 7. The habitat of ichthyosaurs can be determined by the appearance of their fossilized remains.

Questions 8-13

Complete the flow-chart below. Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage.

Method of determining where the ancestors of turtles and tortoises come from

Step 1: 71 species of living turtles and tortoises were examined and a total of (8) ..... were taken from the bones of their forelimbs.

Step 2: The data was recorded on a (9) ..... (necessary for comparing the information).

Outcome: Land tortoises were represented by a dense (10) ..... of points towards the top. Sea turtles were grouped together in the bottom part.

Step 3: The same data was collected from some living (11) ..... species and added to the other results. Outcome: The points for these species turned out to be positioned about (12) ..... up the triangle between the land tortoises and the sea turtles.

Step 4: Bones of R quenstedti and P talampayensis were examined in a similar way and the results added. Outcome: The position of the points indicated that both these ancient creatures were (13) .....

READING PASSAGE 2

Disappearing Delta

A The fertile land of the Nile delta is being eroded along Egypt's Mediterranean coast at an astounding rate, in some parts estimated at 100 metres per year. In the past, land scoured away from the coastline by the currents of the Mediterranean Sea used to be replaced by sediment brought dawn to the delta by the River Nile, but this is no longer happening.

B Up to now, people have blamed this loss of delta land on the two large dams at Aswan in the south of Egypt, which hold back virtually all of the sediment that used to flow down the river. Before the dams were built, the Nile flowed freely, carrying huge quantities of sediment north from Africa's interior to be deposited on the Nile delta. This continued for 7,000 years, eventually covering a region of over 22,000 square kilometres with layers of fertile silt. Annual flooding brought in new, nutrient-rich soil to the delta region, replacing what had been washed away by the sea, and dispensing with the need for fertilizers in Egypt's richest food-growing area. But when the Aswan dams were constructed in the 20th century to provide electricity and irrigation, and to protect the huge population centre of Cairo and its surrounding areas from annual flooding and drought, most of the sediment with its natural fertilizer accumulated up above the dam in the southern, upstream half of Lake Nasser, instead of passing down to the delta.

C Now, however, there turns out to be more to the story. It appears that the sediment-free water emerging from the Aswan dams picks up silt and sand as it erodes the river bed and banks on the 800-kilometre trip to Cairo. Daniel Jean Stanley of the Smithsonian Institute noticed that water samples taken in Cairo, just before the river enters the delta, indicated that the river sometimes carries more than 850 grams of sediment per cubic metre of water - almost half of what it carried before the dams were built. 'I'm ashamed to say that the significance of this didn't strike me until after I had read 50 or 60 studies,' says Stanley in Marine Geology. 'There is still a lot of sediment coming into the delta, but virtually no sediment comes out into the Mediterranean to replenish the Coastline. So this sediment must be trapped on the delta itself.'

D Once north of Cairo, most of the Nile water is diverted into more than 10,000 kilometres of irrigation canals and only a small proportion reaches the sea directly through the rivers in the delta. The water in the irrigation canals is still or very slow-moving and thus cannot carry sediment, Stanley explains.

E The farms on the delta plains and fishing and aquaculture in the lagoons account for much of Egypt's food supply. But by the time the sediment has come to rest in the fields and lagoons it is laden with municipal, industrial and agricultural waste from the Cairo region, which is home to more than 40 million people. 'Pollutants are building up faster and faster' says Stanley.
Based on his investigations of sediment from the delta lagoons, Frederic Siegel of George Washington University concurs. 'In Manzalah Lagoon, for example, the increase in mercury, lead, copper and zinc coincided with the building of the High Dam at Aswan, the availability of cheap electricity, and the development of major powerbased industries,' he says. Since that time

the concentration of mercury has increased significantly. Lead from engines that use leaded fuels and from other industrial sources has also increased dramatically. These poisons can easily enter the food chain, affecting the productivity of Fishing and Farming. Another problem is that agricultural wastes include fertilizers which stimulate increases in plant growth in the lagoons and upset the ecology of the area, with serious effects on the fishing industry.

F According to Siegel, international environmental organisations are beginning to pay closer attention to the region, partly because of the problems of erosion and pollution of the Nile delta, but principally because they fear the impact this situation could have on the whole Mediterranean coastal ecosystem. But there are no easy solutions. In the immediate Future, Stanley believes that one solution would be to make artificial floods to flush out the delta waterways, in the same way that natural floods did before the construction of the dams. He says, however, that in the long term an alternative process such as desalination may have to be used to increase the amount of water available, 'In my view, Egypt must devise a way to have more water running through the river and the delta,' says Stanley. Easier said than done in a desert region with a rapidly growing population.

Questions 14-17

Reading Passage 2 has six paragraphs, **A-F**. Choose the correct heading for paragraphs **B** and **D-F** from the list of headings below.

List of Headings

i The threat to food production
ii The danger of flooding the Cairo area
iii Looking at the long-term impact
iv Causing pollution in the Mediterranean
v Interrupting a natural process
vi Effects of irrigation on sedimentation
vii Less valuable sediment than before
viii Egypt's disappearing coastline

Example) Paragraph A vii

14) Paragraph B .....

Example) Paragraph C vi

15) Paragraph D .....

16) Paragraph E .....

17) Paragraph F .....

Questions 18-22

Do the following statements reflect the claims of the writer in Reading Passage 2? Write:

YES if the statement reflects the claims of the writer

NO if the statement contradicts the claims of the writer

NOT GIVEN if it is impossible to say what the writer thinks about this

..... 18) Water is pumped from the irrigation canals into the lagoons.

..... 19) The Aswan dams were built to increase the fertility of the Nile delta.

..... 20) Coastal erosion occurred along Egypt's Mediterranean coast before the building of the Aswan dams.

..... 21) Sediment in the irrigation canals on the Nile delta causes flooding.

..... 22) Stanley found that the levels of sediment in the river water in Cairo were relatively high.

Questions 23-25

Complete the summary of paragraphs E and F with the list of words **A-H** below.

A artificial floods **B** desalination **C** delta waterways **D** natural floods

E nutrients **F** pollutants **G** population control **H** sediment

In addition to the problem of coastal erosion, there has been a marked increase in the level of (23) ..... contained in the silt deposited in the Nile delta. To deal with this, Stanley suggests the use of (24) ..... in the short term, and increasing the amount of water available through (25) ..... in the longer term.

……THE END……