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**Academic  
Reading  
Practice Test**

**4**

**SECTION 1**

# Bananas



- A The world's favourite fruit could disappear forever in 10 years' time. The banana is among the world's oldest crops. Agricultural scientists believe that the first edible banana was discovered around ten thousand years ago. It has been at an evolutionary standstill ever since it was first propagated in the jungles of South-East Asia at the end of the last ice age. Normally the wild banana, a giant jungle herb called *Musa acuminata*, contains a mass of hard seeds that make the fruit virtually inedible. But now and then, hunter-gatherers must have discovered rare mutant plants that produced seed-less, edible fruits. Geneticists now know that the vast majority of these soft-fruited plants resulted from genetic accidents that gave their cells three copies of each chromosome instead of the usual two. This imbalance prevents seeds and pollen from developing normally, rendering the mutant plants sterile. And that is why some scientists believe the world's most popular fruit could be doomed. It lacks the genetic diversity to fight off pests and diseases that are invading the banana plantations of Central America and the small-holdings of Africa and Asia alike.
- B In some ways, the banana today resembles the potato before blight brought famine to Ireland a century and a half ago. But "it holds a lesson for other crops, too", says Emile Frison, top banana at the International Network for the Improvement of Banana and Plantain in Montpellier, France. "The state of the banana", Frison warns, "can teach a broader lesson the increasing standardisation of food crops round the world is threatening their ability to adapt and survive."
- C The first Stone Age plant breeders cultivated these sterile freaks by replanting cuttings from their stems. And the descendants of those original cuttings are the bananas we still eat today. Each is a virtual clone, almost devoid of genetic diversity. And that uniformity makes it ripe for disease like no other crop on Earth. Traditional varieties of sexually reproducing crops have always had a much broader genetic base, and the genes will recombine in new arrangements in each generation. This gives them much greater flexibility in evolving responses to disease - and far more genetic

resources to draw on in the face of an attack. But that advantage is fading fast, as growers increasingly plant the same few, high-yielding varieties. Plant breeders work feverishly to maintain resistance in these standardized crops. Should these efforts falter, yields of even the most productive crop could swiftly crash. "When some pest or disease comes along, severe epidemics can occur," says Geoff Hawtin, director of the Rome-based International Plant Genetic Resources Institute.

- D The banana is an excellent case in point. Until the 1950s, one variety, the Gros Michel, dominated the world's commercial banana business. Found by French botanists in Asia in the 1820s, the Gros Michel was by all accounts a fine banana, richer and sweeter than today's standard banana and without the latter's bitter aftertaste when green. But it was vulnerable to a soil fungus that produced a wilt known as Panama disease. "Once the fungus gets into the soil it remains there for many years. There is nothing farmers can do. Even chemical spraying won't get rid of it," says Rodomiro Ortiz, director of the International Institute for Tropical Agriculture in Ibadan, Nigeria. So plantation owners played a running game, abandoning infested fields and moving to "clean" land - until they ran out of clean land in the 1950s and had to abandon the Gros Michel. Its successor, and still the reigning commercial king, is the Cavendish banana, a 19th-century British discovery from southern China. The Cavendish is resistant to Panama disease and, as a result, it literally saved the international banana industry. During the 1960s, it replaced the Gros Michel on supermarket shelves. If you buy a banana today, it is almost certainly a Cavendish. But even so, it is a minority in the world's banana crop.
- E Half a billion people in Asia and Africa depend on bananas. Bananas provide the largest source of calories and are eaten daily. Its name is synonymous with food. But the day of reckoning may be coming for the Cavendish and its indigenous kin. Another fungal disease, black Sigatoka, has become a global epidemic since its first appearance in Fiji in 1963. Left to itself, black Sigatoka - which causes brown wounds on leaves and pre-mature fruit ripening - cuts fruit yields by 50 to 70 per cent and reduces the productive lifetime of banana plants from 30 years to as little as 2 or 3. Commercial growers keep Sigatoka at bay by a massive chemical assault. Forty sprayings of fungicide a year is typical. But despite the fungicides, diseases such as black Sigatoka are getting more and more difficult to control. "As soon as you bring in a new fungicide, they develop resistance," says Frison. "One thing we can be sure of is that the Sigatoka won't lose in this battle." Poor farmers, who cannot afford chemicals, have it even worse. They can do little more than watch their plants die. "Most of the banana fields in Amazonia have already been destroyed by the disease," says Luadir Gasparotto, Brazil's leading banana pathologist with the government research agency EMBRAPA. Production is likely to fall by 70 percent as the disease spreads, he predicts. The only option will be to find a new variety.
- F But how? Almost all edible varieties are susceptible to the diseases, so growers

cannot simply change to a different banana. With most crops, such a threat would unleash an army of breeders, scouring the world for resistant relatives whose traits they can breed into commercial varieties. Not so with the banana. Because all edible varieties are sterile, bringing in new genetic traits to help cope with pests and diseases is nearly impossible. Nearly, but not totally. Very rarely, a sterile banana will experience a genetic accident that allows an almost normal seed to develop, giving breeders a tiny window for improvement. Breeders at the Honduran Foundation of Agricultural Research have tried to exploit this to create disease-resistant varieties. Further backcrossing with wild bananas yielded a new seedless banana resistant to both black Sigatoka and Panama disease.

- G Neither Western supermarket consumers nor peasant growers like the new hybrid. Some accuse it of tasting more like an apple than a banana. Not surprisingly, the majority of plant breeders have till now turned their backs on the banana and got to work on easier plants. And commercial banana companies are now washing their hands of the whole breeding effort, preferring to fund a search for new fungicides instead. "We supported a breeding programme for 40 years, but it wasn't able to develop an alternative to Cavendish. It was very expensive and we got nothing back," says Ronald Romero, head of research at Chiquita, one of the Big Three companies that dominate the international banana trade.
- H Last year, a global consortium of scientists led by Frison announced plans to sequence the banana genome within five years. It would be the first edible fruit to be sequenced. Well, almost edible. The group will actually be sequencing inedible wild bananas from East Asia because many of these are resistant to black Sigatoka. If they can pinpoint the genes that help these wild varieties to resist black Sigatoka, the protective genes could be introduced into laboratory tissue cultures of cells from edible varieties. These could then be propagated into new, resistant plants and passed on to farmers.
- I It sounds promising, but the big banana companies have, until now, refused to get involved in GM research for fear of alienating their customers. "Biotechnology is extremely expensive and there are serious questions about consumer acceptance," says David McLaughlin, Chiquita's senior director for environmental affairs. With scant funding from the companies, the banana genome researchers are focusing on the other end of the spectrum. Even if they can identify the crucial genes, they will be a long way from developing new varieties that smallholders will find suitable and affordable. But whatever biotechnology's academic interest, it is the only hope for the banana. Without banana production worldwide will head into a tailspin. We may even see the extinction of the banana as both a lifesaver for hungry and impoverished Africans and as the most popular product on the world's supermarket shelves.

### ***Questions 1-3***

Complete the sentences below with NO MORE THAN THREE WORDS from the passage. (IELTS test papers offered by ipredicting.com, copyright)

In boxes 1-3 on your answer sheet, write

Write your answers in boxes 1-3 on your answer sheet

1 Banana was first eaten as a fruit by humans almost..... years ago.

2 Banana was first planted in .....

3 Wild banana's taste is adversely affected by its .....

### ***Questions 4-10***

Look at the following statements (Questions 4-10) and the list of people below Match each statement with the correct person, **A-F**.

Write the correct letter: **A-F**, in boxes **4-10** on your answer sheet.

**NB** You may use any letter more than once.

- 4 Pest invasion may seriously damage banana industry.
- 5 The effect of fungal infection in soil is often long-lasting.
- 6 A commercial manufacturer gave up on breeding bananas for disease resistant species.
- 7 Banana disease may develop resistance to chemical sprays.
- 8 A banana disease has destroyed a large number of banana plantations.
- 9 Consumers would not accept genetically altered crop.
- 10 Lessons can be learned from bananas for other crops.

**List of People**

- A Rodomiro
- B David McLaughlin
- C Emile Frison
- D Ronald Romero
- E Luadir Gasparotto
- F Geoff Hawtin

***Questions 11-13***

*Do the following statements agree with the information given in Reading Passage 1?  
In boxes 11-13 on your answer sheet, write*

**TRUE***if the statement is true***FALSE***if the statement is false***NOT GIVEN***if the information is not given in the passage*

- 11 Banana is the oldest known fruit.
- 12 Gros Michel is still being used as a commercial product.
- 13 Banana is a main food in some countries

## SECTION 2

# The Evolutionary Mystery: Crocodile Survives

- A Crocodiles have been around for 200 million years, but they're certainly not primitive. The early forms of crocodiles are known as Crocodilia. Since they



spent most of their life beneath water, accordingly their body adapted to **aquatic** lifestyle. Due to the changes formed within their body shape and tendency to adapt according to the climate they were able to survive when most of the **reptiles** of their

period are just a part of history. In their tenure on Earth, they've endured the impacts of **meteors**, planetary refrigeration, extreme upheavals of the Earth's tectonic surface and profound climate change. They were around for the rise and fall of the dinosaurs, and even 65 million years of supposed mammalian dominance has failed to loosen their grip on the environments they inhabit.



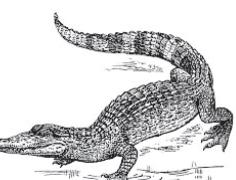
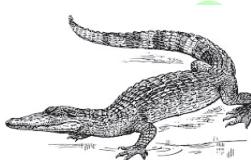
- B The first crocodile-like ancestors appeared about 230 million years ago, with many of the features that make crocs such successful stealth hunters already in place: streamlined body, long tail, protective armour and long jaws. They have long head and a long tail that helps them to change their direction in water while moving. They have four legs which are short and are **webbed**. Never underestimate their ability to move on ground. When they move they can move at such a speed that won't give you a second chance to make a mistake by going close to them especially when hungry. They can lift their whole body within seconds from ground.

- C Crocodilians have no lips. When submerged in their classic 'sit and wait' position, their mouths fill with water. The **nostrils** on the tip of the elongated snout lead into canals that run through bone to open behind the **valve** – allowing the



crocodilian to breathe through its nostrils even though its mouth is under water. When the animal is totally submerged, another valve seals the nostrils, so the crocodilian can open its mouth to catch prey with no fear of drowning. The thin skin

on the crocodilian head and face is covered with tiny, pigmented domes, forming a network of neural pressure receptors that can detect barely perceptible vibrations in the water. This enables a crocodile lying in silent darkness to suddenly throw its head sideways and grasp with deadly accuracy small prey moving close by.

- D** Like other reptiles, crocodiles are endothermic animals (cold-blooded, or whose body temperature varies with the temperature of the surrounding environment) and, therefore, need to sunbathe, to raise the temperature of the body. On the contrary, if it is too hot, they prefer being in water or in the shade. Being a cold-blooded species, the crocodilian heart is unique in having an actively controlled valve that can redirect, at will, blood flow away from the lungs and recirculate it around the body, taking oxygen to where it's needed most. In addition, their metabolism is a very slow one, so, they can survive for long periods without feeding. Crocodiles are capable of slowing their metabolism even further allowing them to survive for a full year without feeding.
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- E** Crocodiles use a very effective technique to catch the prey. The prey remains almost unaware of the fact that there can be any crocodile beneath water. The crocodile is successful because it switches its feeding methods. It hunts fish, grabs birds at the surface, hides among the water edge vegetation to wait for a gazelle to come by, and when there is a chance for an ambush, the crocodile lunges forward, knocks the animal with its powerful tail and then drags it to water where it quickly drowns. Another way is to wait motionless for an animal to come to the water's edge and grabs it by its nose where it is held to drown.
- F** In many places inhabited by crocodilians, the hot season brings drought that dries up their hunting grounds and takes away the means to regulate their body temperature. They allowed reptiles to dominate the terrestrial environment. Furthermore, many crocs protect themselves from this by digging burrows and entombing themselves in mud, waiting for months without access to food or water, until the rains arrive. To do this, they sink into a quiescent state called aestivation
- G** Most of (At least nine species of) crocodilian are thought to aestivate during dry periods. Kennett and Christian's six-year study of Australian freshwater crocodiles- *Crocodylus johnstoni (the King Crocodiles)*. The crocodiles spent almost four months a year underground without access to water. Doubly labeled water was used to measure field metabolic rates and water flux, and plasma (and

cloacal fluid samples were taken at approximately monthly intervals during some years to monitor the effects of aestivation with respect to the accumulation of nitrogenous wastes and electrolyte concentrations. Doubly found that the crocodiles' metabolic engines tick over, producing waste and using up water and fat reserves. Waste products are stored in the urine, which gets increasingly concentrated as the months pass. However, the concentration of waste products in the blood changes very little, allowing the crocodiles to function normally. Furthermore, though the animals lost water and body mass (just over one-tenth of their initial mass) while underground, the losses were proportional: on emergence, the aestivating crocodiles were not dehydrated and exhibited no other detrimental effects such as a decreased growth rate. Kennett and Christian believe this ability of individuals to sit out the bad times and endure long periods of enforced starvation must surely be key to the survival of the crocodilian line through time.

### ***Questions 14-20***

*Reading passage 2 has seven paragraphs, A-G; Choose the correct heading for paragraphs A-G from the list below.*

*Write the correct number, i-xi, in boxes 14-20 on your answer sheet.*

#### **List of Headings**

- i* The competitors with the dinosaur
- ii* A historical event for the Supreme survivors.
- iii* What makes the crocodile the fastest running animal on land
- iv* Regulated body temperature by the surrounding environment
- v* Underwater aid in body structure offered to a successful predator
- vi* The perfectly designed body for a great land roamer
- vii* Slow metabolisms which makes crocodile a unique reptile
- viii* The favorable features in the impact of a drought
- ix* Shifting Eating habits and food intake
- x* A project on a special mechanism
- xi* A unique findings has been achieved recently

14 Paragraph A

15 Paragraph B

16 Paragraph C

17 Paragraph D

18 Paragraph E

19 Paragraph F

20 Paragraph G

**Questions 21-26**

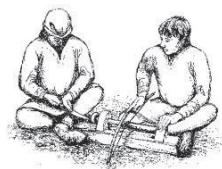
Complete the summary and write the correct answer (**no more than two words or a number**) in boxes 21-26 on your answer sheet.

In many places inhabited by crocodilians, most types of the crocodile has evolved a successful scheme to survive in the drought brought by a .....21..... . According to Kennett and Christian's six-year study of Australian freshwater crocodiles' aestivation, they found Aestivating crocodiles spent around .....22.....a year without access to.....23..... The absolute size of body water pools declined proportionately with .....24...; thus there is no sign of.....25..... and other health-damaging impact in the crocodiles even after an aestivation period. This super capacity helps crocodiles endure the tough drought without slowing their speed of .....26..... significantly

**SECTION 3**

## Mystery in Easter Island

- A One of the world's most famous yet least visited archaeological sites, Easter Island is a small, hilly, now treeless island of volcanic origin. Located in the Pacific Ocean at 27 degrees south of the equator and some 2200 miles (3600 kilometers) off the coast of Chile, it is considered to be the world's most remote inhabited island. The island is, technically speaking, a single massive volcano rising over ten thousand feet from the Pacific Ocean floor. The island received its most well-known current name, Easter Island, from the Dutch sea captain Jacob Roggeveen who became the first European to visit Easter Sunday, April 5, 1722.
- B In the early 1950s, the Norwegian explorer Thor Heyerdahl popularized the idea that the island had been originally settled by advanced societies of Indians from the coast of South America. Extensive archaeological, ethnographic and linguistic research has conclusively shown this hypothesis to be inaccurate. It is now recognized that the original inhabitants of Easter Island are of **Polynesian** stock (DNA extracts from skeletons have confirmed this), that they most probably came from the Marquesas or Society islands, and that they arrived as early as 318 AD (carbon dating of reeds from a grave confirms this). At the time of their arrival, much of the island was forested, was teeming with land birds, and was perhaps the most productive breeding site for seabirds in the Polynesia region. Because of the plentiful bird, fish and plant food sources, the human population grew and gave rise to a rich religious and artistic culture.
- C That culture's most famous features are its enormous stone statues called moai, at least 288 of which once stood upon massive stone platforms called *ahu*. There are some 250 of these *ahu* platforms spaced approximately one half mile apart and creating an almost unbroken line





around the perimeter of the island. Another 600 moai statues, in various stages of completion, are scattered around the island, either in **quarries** ( ) or along ancient roads between the quarries and the coastal areas where the statues were most

often erected. Nearly all the moai are carved from the tough stone of the *Rano Raraku* volcano. The average statue is 14 feet and 6 inches tall and weighs 14 tons. Some moai were as large as 33 feet and weighed more than 80 tons. Depending upon the size of the statues, it has been estimated that between 50 and 150 people were needed to drag them across the countryside on sleds and rollers made from the island's trees.

- D Scholars are unable to definitively explain the function and use of the moai statues. It is assumed that their carving and erection derived from an idea rooted in similar practices found elsewhere in Polynesia but which evolved in a unique way on Easter Island. Archaeological and iconographic analysis indicates that the statue cult was based on an ideology of male, lineage-based authority incorporating anthropomorphic symbolism. The statues were thus symbols of authority and power, both religious and political. But they were not only symbols. To the people who erected and used them, they were actual repositories of sacred spirit. Carved stone and wooden objects in ancient Polynesian religions, when properly fashioned and ritually prepared, were believed to be charged by a magical spiritual essence called *mana*. The ahu platforms of Easter Island were the sanctuaries of the people, and the moai statues were the ritually charged sacred objects of those sanctuaries.
- E Besides its more well-known name, Easter Island is also known as *Te-Pito-O-Te-Henua*, meaning 'The Navel of the World', and as *Mata-Ki-Te-Rani*, meaning 'Eyes Looking at Heaven'. These ancient name and a host of mythological details ignored by mainstream archaeologists, point to the possibility that the remote island may once have been a **geodetic** marker and the site of an astronomical observatory of a long forgotten civilization. In his book, *Heaven's Mirror*, Graham Hancock suggests that Easter Island may once have been a significant scientific outpost of this **antediluvian** ( ) civilization and that its location had extreme importance in a planet-spanning, mathematically precise grid of sacred sites. Two other alternative scholars, Christopher Knight and Robert Lomas, have extensively studied the location and possible function of these geodetic markers. In their

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fascinating book, Uriel's Machine, they suggest that one purpose of the geodetic markers was as part of global network of sophisticated astronomical observatories dedicated to predicting and preparing for future commentary impacts and crystal displacement cataclysms. (

- F In the latter years of the 20th century and the first years of the 21st century various writers and scientists have advanced theories regarding the rapid decline of Easter Island's magnificent civilization around the time of the first European contact. Principal among these theories, and now shown to be inaccurate, is that postulated by Jared Diamond in his book *Collapse : How Societies Choose to Fail or Survive*.

**Basically these theories state that** a few centuries after Easter Island's initial colonization the resource needs of the growing population had begun to outpace the island's capacity to renew itself ecologically. By the 1400s the forests had been entirely cut, the rich ground cover had eroded away, the springs had dried up, and the **vast flocks of birds coming to roost on the island had disappeared.** With no logs to build canoes for offshore fishing, with depleted bird and wildlife food sources, and with declining crop yields because of the erosion of good soil, the nutritional intake of the people plummeted. First famine, then **cannibalism**, set in.

Because the island could no longer feed the chiefs bureaucrats and priests who kept the complex society running, the resulting chaos triggered a social and cultural collapse. By 1700 the population dropped to between one-quarter and one-tenth of its former number, and many of the statues were toppled during supposed "clan wars" of the 1600 and 1700s.

- G The faulty notions presented in these theories began with the racist assumptions of Thor Heyerdahl and have been perpetuated by writers, such as Jared Diamond, who do not have sufficient archaeological and historical understanding of the actual events which occurred on Easter Island. The real truth regarding the tremendous social devastation which occurred on Easter Island is that it was a direct consequence of the inhumane behavior of many of the first European visitors, particularly the slavers who raped and murdered the islanders, introduced small pox and other diseases, and brutally removed the natives to mainland South America.

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### READING PASSAGE 3

You should spend about 20 minutes on Questions 27 - 40 which are based on Reading Passage 3 below. (IELTS test papers offered by ipredicting.com, copyright)

**The reading passage has seven paragraphs, A-G**

Choose the correct heading for paragraphs A-G from the list below.

Write the correct number, i-xi, in boxes 27-31 on your answer sheet.

NB There are more headings than paragraphs , so you will not use them

#### List of Headings

- i* The famous moai
- ii* The status represented symbols of combined purposes
- iii* The ancient spots which indicates scientific application
- iv* The story of the name
- v* Early immigrants, rise and prosperity
- vi* The geology of Easter Island
- vii* The begin of Thor Heyerdahl's discovery
- viii* The counterking explanation to the misconceptions politaically manipulated
- ix* Symbols of authority and power
- x* The Navel of the World
- xi* The norweigan Invaders'legacy

#### Questions 27-31

Example                  Answer

**Paragraph A**                  *iv*

27 Paragraph B

**Paragraph C**                  *i*

28 Paragraph D

29 Paragraph E

30 Paragraph G

**Questions 31-36**

Do the following statements agree with the information given in Reading Passage 3?  
In boxes 31 -36 on your answer sheet write

**TRUE***if the statement is true***FALSE***if the statement is false***NOT GIVEN***if the information is not given in the passage*

- 31 The first inhabitants of Easter Island are Polynesian, from the Marquesas or Society islands.
- 32 Construction of some moai statues on the island was not finished.
- 33 The Moai can be found not only on Easter Island but also elsewhere in Polynesia.
- 34 Most archeologists recognised the religious and astronomical functions for an ancient society
- 35 The structures on Easter Island work as an astronomical outpost for extraterrestrial visitors.
- 36 the theory that depleted natural resources leading to the fall of Easter Island actual has a distorted perspective

**Questions 37-40**

Complete the following summary of the paragraphs of Reading Passage, using **NO MORE THAN THREE WORDS** from the Reading Passage for each answer. Write your answers in boxes 37-40 on your answer sheet.

Many theories speculated that Easter Island's fall around the era of the initial European contact. Some say the resources are depleted by a 37.....; The erroneous theories began with a root of the 38..... advanced by some scholars. Early writers did not have adequate 39..... understandings to comprehend the true nature of events on the island. The social devastation was in fact a direct result of 40..... of the first European settlers.