

# IELTS Academic Reading Sample 71 - Antarctic Penguins

## Antarctic Penguins

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Though penguins are assumed to be native to the South Pole, only four of the seventeen species have evolved the survival adaptations necessary to live and breed in the Antarctic year round. The physical features of the Adelie, Chinstrap, Gentoo, and Emperor penguins equip them to withstand the harshest living conditions in the world. Besides these four species, there are a number of others, including the yellow feathered Macaroni penguin and the King penguin that visit the Antarctic regularly but migrate to warmer waters to breed. Penguins that live in Antarctica year round have a thermoregulation system and a survival sense that allows them to live comfortably both on the ice and in the water.

In the dark days of winter, when the Antarctic sees virtually no sunlight, the penguins that remain on the ice sheet sleep most of the day. To retain heat, penguins huddle in communities of up to 6,000 of their own species. When it's time to create a nest, most penguins build up a pile of rocks on top of the ice to place their eggs. The Emperor penguin, however, doesn't bother with a nest at all. The female Emperor lays just one egg and gives it to the male to protect while she goes off for weeks to feed. The male balances the egg on top of his feet, covering it with a small fold of skin called a brood patch. In the huddle, the male penguins rotate regularly so that none of the penguins have to stay on the outside of the circle exposed to the wind and cold for long periods of time. When it's time to take a turn on the outer edge of the pack, the penguins tuck their feathers in and shiver. The movement provides enough warmth until they can head back into the inner core and rest in the warmth. In order to reduce the cold of the ice, penguins often put their weight on their heels and tails. Antarctic penguins also have complex nasal passages that prevent 80 percent of their heat from leaving the body. When the sun is out, the black dorsal plumage attracts its rays and penguins can stay warm enough to waddle or slide about alone.

Antarctic penguins spend about 75 percent of their lives in the water. A number of survival adaptations allow them to swim through water as cold as -2 degrees Celsius. In order to stay warm in these temperatures, penguins have to keep moving. Though penguins don't fly in the air, they are often said to fly through water. Instead of stopping each time they come up for air, they use a technique called "porpoising," in which they leap up for a quick breath while swiftly moving forward: Unlike most birds that have hollow bones for flight, penguins have evolved hard solid bones that keep them low in the water. Antarctic penguins also have unique feathers that work similarly to a waterproof diving suit. Tufts of down trap a layer of air within the feathers, preventing the water from penetrating the penguin's skin. The pressure of a deep dive releases this air, and a penguin has to rearrange the feathers through a process called "preening." Penguins also have an amazing circulatory system, which in extremely cold waters diverts blood from the flippers and legs to the heart.

While the harsh climate of the Antarctic doesn't threaten the survival of Antarctic penguins, overheating can be a concern, and therefore, global warming is a threat to them. Temperate species have certain physical features such as fewer feathers and less blubber to keep them cool on a hot day. African penguins have bald patches on their legs and face where excess heat can be released. The blood vessels in the penguin's skin dilate when the body begins to overheat, and the heat rises to the surface of the body. Penguins who are built for cold winters of the Antarctic have other survival techniques for a warm day, such as moving to shaded areas, or holding their fins out away from their bodies.

**Questions 1-5**

Classify the following facts as applying to:

**A** Antarctic penguins

**B** Temperature-area penguins

Write the appropriate letter, **A** or **B**, in boxes **1-5** on your answer sheet.

- 1 stand in large groups to keep warm
- 2 spend about three quarters of its time in the water
- 3 have feathers that keep cold water away from its skin
- 4 have areas of skin without feathers
- 5 have less blubber.

**Questions 6-9**

Complete each of the following sentences with information from the reading passage.

Write your answers in boxes **6-9** on your Answer Sheet. Write **No MORE THAN THREE** words for each answer.

- 6 Most penguins use.....to build their nests.
- 7 While the male emperor penguin takes care of the egg, the female goes away to .....
- 8 A..... is a piece of skin that the male emperor penguin uses to protect the egg.
- 9 Penguins protect their feet from the cold of the ice by standing on their .....

**Questions 10-13**

The article mentions many facts about penguins.

Which four of the following features are things that enable them to survive in very cold water?

Write the appropriate letters **A-H** in boxes **10-13** on your Answer Sheet.

- A** They move through the water very quickly.

- B** They hold their flippers away from their bodies. **C** They choose shady areas.
- C** When necessary, their blood moves away from the flippers and toward the heart.
- D** They breathe while still moving.
- E** The blood vessels in their skin dilate.
- F** They waddle and slide.
- G** Their feathers hold in a layer of air near the skin.

**Answer:**

1. A (*Paragraph 2*) 2. A (*Paragraph 3*) 3. B (*Paragraph 3*) 4. A (*Paragraph 4*) 5. B (*Paragraph 4*) 6. rocks 7. feed/ eat 8. brood patch 9. heels and tails 10. A 11. R 12. E 13. H

# IELTS Academic Reading Sample 72 - An Era of Abundance

## An Era of Abundance

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Our knowledge of the complex pathways underlying digestive processes is rapidly expanding, although there is still a great deal we do not fully understand. On the one hand, digestion, like any other major human biological system, is astonishing in its intricacy and cleverness. Our bodies manage to extract the complex resources needed to survive, despite sharply varying conditions, while at the same time, filtering out a multiplicity of toxins.

On the other hand, our bodies evolved in a very different era. Our digestive processes in particular are optimized for a situation that is dramatically dissimilar to the one we find ourselves in. For most of our biological heritage, there was a high likelihood that the next foraging or hunting season (and for a brief, relatively recent period, the next planting season) might be catastrophically lean. So it made sense for our bodies to hold on to every possible calorie. Today, this biological strategy is extremely counterproductive. Our outdated metabolic programming underlies our contemporary epidemic of obesity and fuels pathological processes of degenerative disease such as coronary artery disease, and type II diabetes.

Up until recently (on an evolutionary time scale), it was not in the interest of the species for old people like myself (I was born in 1948) to use up the limited resources of the clan. Evolution favored a short life span – life expectancy was 37 years only two centuries ago – so these restricted reserves could be devoted to the young, those caring for them, and laborers strong enough to perform intense physical work.

We now live in an era of great material abundance. Most work requires mental effort rather than physical exertion. A century ago, 30 percent of the U.S. workforce worked on farms, with another 30 percent deployed in factories. Both of these figures are now under 3 percent. The significant majority of today's job categories, ranging from airline flight attendant to web designer, simply didn't exist a century ago.

Our species has already augmented the "natural" order of our life cycle through our technology: drugs, supplements, replacement parts for virtually all bodily systems, and many other interventions. We already have devices to replace our hips, knees, shoulders, elbows, wrists, jaws, teeth, skin, arteries, veins, heart valves, arms, legs, feet, fingers, and toes. Systems to replace more complex organs (for example, our hearts) are beginning to work. As we're learning the principles of operation of the human body and the brain, we will soon be in a position to design vastly superior systems that will be more enjoyable, last longer, and perform better, without susceptibility to breakdown, disease, and aging.

In a famous scene from the movie, *The Graduate*, Benjamin's mentor gives him career advice in a single word: "plastics." Today, that word might be "software," or "biotechnology," but in another couple of decades, the word is likely to be "nanobots." Nanobots – blood-cell-sized robots – will provide the means to radically redesign our digestive systems, and, incidentally, just about everything else.

In an intermediate phase, nanobots in the digestive tract and bloodstream will intelligently extract the precise nutrients we need, call for needed additional nutrients and supplements through our personal wireless local area network, and send the rest of the food we eat on its way to be passed through for elimination.

If this seems futuristic, keep in mind that intelligent machines are already making their way into our blood stream. There are dozens of projects underway to create blood -stream-based "biological microelectromechanical systems" (bioMEMS) with a wide range of diagnostic and therapeutic applications. BioMEMS devices are being designed to intelligently scout out pathogens and deliver medications in very precise ways.

For example, a researcher at the University of Illinois at Chicago has created a tiny capsule with pores measuring only seven nanometers. The pores let insulin out in a controlled manner but prevent antibodies from invading the pancreatic Islet cells inside the capsule. These nanoengineered devices have cured rats with type I diabetes, and there is no reason that the same methodology would fail to work in humans. Similar systems could precisely deliver dopamine to the brain for Parkinson's patients, provide blood - clotting factors for patients with hemophilia, and deliver cancer drugs directly to tumor sites. A new design provides up to 20 substance- containing reservoirs that can release their cargo at programmed times and locations in the body. A new world is on the horizon and you will be part of it.

### Questions 1-8

Complete the summary below.

Choose **NO MORE THAN THREE WORDS** from the passage for each answer.

In the past it was essential to hoard our calories for as long as possible because our food source was mainly restricted to 1 \_\_\_\_\_ and 2 \_\_\_\_\_ which brought in irregular supplies. However, these reserves were intended for 3 \_\_\_\_\_ because they had the power and energy to work hard. Nowadays, the focus has moved away from jobs on 4 \_\_\_\_\_ and in 5 \_\_\_\_\_ to jobs that weren't available 6 \_\_\_\_\_. Through technology, it has now become possible to replace many body 7 \_\_\_\_\_ and as techniques improve we will be able to develop better 8 \_\_\_\_\_.

### Questions 9-12

Complete the summary using the list of words, **A-J**, below.

In the future, a nanobot's ability to redesign our digestive system will be 9 \_\_\_\_\_. One function is the intelligent 10 \_\_\_\_\_ of the exact nutritional requirements needed. If this all seems to be fantasy, consider a tiny machine already developed that has now been used in the treatment of 11 \_\_\_\_\_. However, this has not been tried on 12 \_\_\_\_\_.

**A Parkinson's    B haemophilia    C diabetes    D humans    E radical**  
**F rats    G extract    H radically    I extraction    J cells**

### Answer:

1. foraging    2. hunting (1 and 2 in any order)    3. labourers    4. farms    5. factories    6. a century ago    7. parts    8. systems    9. radical    10. extraction    11. diabetes    12. humans

# IELTS Academic Reading Sample 73 - Wind Power

## Wind Power

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The power of the wind has been used for centuries to directly drive various machines to perform such tasks as grinding wheat or pumping water. Recently, however, the wind has joined other natural forces such as water and steam as a viable method of generating electricity.

Traditional means of electricity generation using coal or oil-fueled plants have two major drawbacks; they pollute the environment and the fuels they use are inefficient and non-renewable. In response to growing environmental awareness there have been calls for a greener alternative. Nuclear power, while more efficient and less polluting, is seen by many people as unacceptable, because of the danger of accidents such as those that happened at Chernobyl or Three Mile Island. Wind power, however, is clean, renewable and, with modern advances, surprisingly efficient.

In the 1970s Britain was in the forefront of research into wind power. The interest in wind diminished in the 1980s due to cheap North Sea oil, a strong pro-nuclear lobby and pricing structures that made it uneconomical to set up wind farms. Britain, the windiest country in Europe, had to wait until 1991 for its first wind farm. Located at Delabole in Cornwall, the farm was originally the idea of locals who opposed the construction of a nuclear power plant nearby and decided to set up a private company to generate power for the area using the wind. They had to fight opposition from local government and other local residents, who thought the turbines would be noisy and might interfere with television signals, but eventually, after showing local officials working wind farms in Denmark, they won and now there are 10 huge white wind turbines on the Delabole hills.

It is in Germany and Denmark that the greatest advances in wind power have come. Germany alone produces half of the wind generated electricity in Europe. Every year Germany adds 400 Megawatts (Mw) of capacity. In 2000 alone capacity expanded by 1669 Mw. Denmark now produces 30% of its electricity from wind power and this is predicted to rise to 50% by 2010. Both countries have encouraged this growth by "fixed feed tariffs" which guarantee a good price for private wind power operators.

The UK is catching up and the government has set a target 10% of all electricity to come from renewable sources by 2010, half of this to be from wind power. The 900 wind turbines in operation generate 400Mw of electricity and to meet the target roughly 400Mw will need to be added each year. With the advances in technology this is technically possible. Each turbine can now produce 400 Kilowatts (KW) compared to only 70 KW at the start of the 1980s. It will, however, need help from the government. This is being done by offering financial support and giving private power companies targets to meet.

Because many people feel wind farms spoil the view and, also, because the wind is stronger at sea, many wind farms are now being built offshore. They are usually built a few kilometres off the coast in shallow water. The construction and maintenance costs are higher, but electricity output is higher. The first in Britain was built in 2000 at Blyth, north of Newcastle, and was the largest in the world until May 2001, when a 20 turbine farm was opened at Middelgruden off Copenhagen. There are plans to construct up to 18 more in the UK by 2010. Together they will produce 800 Mw of electricity annually.

The use of wind power is far less advanced in the USA. Only .5% of America's power comes from the wind, although it is estimated that this could be increased to as high as 12% with no changes to the power grid. However, there is an increased interest in wind power. There are plans to build a huge offshore wind farm off the coast of Cape Cod on the North East seaboard. The farm will take up over 25 square miles, have 170 turbines and produce 420Mw at a cost of \$600m. If constructed, it will be the world's second biggest wind farm, after the 520Mw farm planned in Ireland.

### Questions 1 – 2

Choose the best answer to the questions below.

1. People do not like coal and oil powered power production because ...

- a) it damages the environment.
- b) it is wasteful.
- c) eventually it will run out.
- d) all of the above.

2. Wind power ...

- a) has only been used recently.
- b) promotes environmental awareness.
- c) cleans the environment.
- d) is not wasteful.

### Questions 3 – 7

Complete the following summary of the third paragraph from the above reading passage using **ONE OR TWO WORDS** from the reading texts.

#### British Wind Power.

While there was a great deal of interest in wind power in the 1970s, it **(3)** \_\_\_\_\_ in the 1980s. This was mainly due to intense support for **(4)** \_\_\_\_\_ power and little help in making wind power affordable. So, even though Britain has some of the best winds in Europe, the first wind farm was only built in

1991. The farm at Delabole came out of opposition by (5) \_\_\_\_\_ to a nuclear power plant. Initially, they were opposed by local officials due to fears about noise and possible obstruction to (6) \_\_\_\_\_. This opposition was eventually overcome only after they were shown successful examples from (7) \_\_\_\_\_.

**Questions 8 – 13**

Match the country or countries below to the statements taken from the IELTS sample reading.

BR\_\_\_\_\_Britain

G\_\_\_\_\_Germany

D\_\_\_\_\_Denmark

US\_\_\_\_\_The United States

IRE\_\_\_\_\_Ireland

N\_\_\_\_\_None of the countries

8. Plans to produce 5% of its power using wind power.
9. Produces 50% of its power from wind.
10. Produces very little of its power using wind.
11. Will have the world's largest wind farm.
12. Has ambitious plans in developing its wind power capacity.
13. Was the leader in the early development of wind power.

**Answer:**

1. D
2. D
3. diminished
4. nuclear
5. locals

6. television signals

7. Danish Farm / Denmark

8. BR

9. N

10. US

11. IRE

12. D

13. B

# IELTS Academic Reading Sample 74 - Air Rage

## Air Rage

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(A) The first recorded case of an airline passenger turning seriously violent during a flight, a phenomenon now widely known as “air rage”, happened in 1947 on a flight from Havana to Miami. A drunk man assaulted another passenger and bit a flight attendant. However, the man escaped punishment because it was not then clear under whose legal control a crime committed on plane was, the country where the plane was registered or the country where the crime was committed. In 1963, at the Tokyo convention, it was decided that the laws of the country where the plane is registered take precedence.

(B) The frequency of air rage has expanded out of proportion to the growth of air travel. Until recently few statistics were gathered about air rage, but those that have been indicate that passengers are increasingly likely to cause trouble or engage in violent acts. For example, in 1998 there were 266 air rage incidents out of approximately four million passengers, a 400% increase from 1995. In the same period American Airlines showed a 200% rise. Air travel is predicted to rise by 5% internationally by 2010 leading to increased airport congestion. This, coupled with the flying public’s increased aggression, means that air rage may become a major issue in coming years.

(C) Aside from discomfort and disruption, air rage poses some very real dangers to flying. The most extreme of these is when out of control passengers enter the cockpit. This has actually happened on a number of occasions, the worst of which have resulted in the death and injury of pilots or the intruder taking control of the plane, almost resulting in crashes. In addition, berserk passengers sometimes attempt to open the emergency doors while in flight, putting the whole aircraft in danger. These are extreme examples and cases of air rage more commonly result in physical assaults on fellow passengers and crew such as throwing objects, punching, stabbing or scalding with hot coffee.

(D) The causes of air rage are not known for certain, but it is generally thought that factors include: passenger behavior and personality, the physical environment and changes in society. A recent study has identified the issues that start the incidents to be as follows.

Alcohol	25%
Seating	16%
Smoking	10%
Carry on luggage	9%
Flight attendants	8%
Food	5%

(E) One of the major causes seems to be the passenger's behavior or their personality. Fear of flying and the feeling of powerlessness associated with flying can lead to irritable or aggressive passengers. Also, alcohol consumed on a plane pressurized to 8000ft affects the drinker more quickly and the effects are stronger. Many people do not take account of this and drinking may increase any negative reaction to the flying environment they have, which, combined with the lowering of their inhibitions, may cause air rage. Smoking withdrawal, which some liken in severity to opiate withdrawal, is another major cause of air rage incidents. Passengers caught smoking in the toilets occasionally assault flight attendants and have been known to start fires. When conflicts occur in these conditions, they can escalate into major incidents if the passenger has a violent personality or a fear of flying and because of the enclosed nature of a plane offers no option of retreat as would be natural in a "fight or flight" reaction.

(F) Some people feel that the physical environment of a plane can lead to air rage. Seats on most airlines have become smaller in recent years as airlines try to increase profits. This leads to uncomfortable and irritated passengers. Also, space for carry on luggage is often very small. Because up to 8% of checked in luggage is lost, misdirected or stolen, passengers have been trying to fit larger carry on items into these small storage areas and this can lead to disputes that can escalate into air rage. Airlines could also be to blame by raising passengers' expectations too high with their marketing and advertising. Many air rage incidents start when disappointed passengers demand to be resealed. Finally, there is some evidence to show that low oxygen levels can raise aggression level and make people feel more desperate. Airlines have lowered oxygen levels to save money. Now the level of oxygen in the air that the pilots breathe is ten times higher than in cabin class.

(G) Another reason that has been suggested is that society is getting ruder and less patient. The increased congestion at airports, longer queues and increased delays have only added to this. In addition, some air rage incidents have been linked to the demanding nature of high achieving business people, who do not like people telling them what to do and resent the power that the cabin staff have over them. For them, a flight attendant is a waiter or waitress who should do what the passenger wants.

(H) The strongest calls for action to control air rage have come from pilots and aircrew. The International Transport Workers' Federation argues that there are too many loopholes that let people escape punishment and that the penalties are too light. They want to notify all passengers of the penalties for air rage before taking off, rather than after the passenger begins to cause serious problems, when it may be too late. The Civil Aviation Organisation has been organizing international cooperation and penalties have increased in recent years. The most severe punishment so far has been a 51 month jail sentence, a fine to pay for the jet fuel used and 200 hours community service for a man who attempted to enter the cockpit and to open the emergency door of a domestic US flight.

(I) Various other measures are being used to control air rage. Air crew are getting training on how to calm passengers and how to predict where incidents might result in air rage and take action to prevent this. Other measures include, strengthening doors to stop people entering the cockpit, training crew in the use of plastic restraints to tie down unruly passengers and having pilots divert their planes if passengers cause problems. Banning passengers who are guilty of air rage from flying has also been tried to a lesser extent.

### Questions 1 – 8

The IELTS reading sample passage has nine paragraphs **A – I**.

From the list below choose the most suitable headings for **B – I**.

Write the appropriate number (*i – xiv*) beside in boxes **1 – 8** on your answer sheet.

**NB** There are more headings than paragraphs, so you do not have to use them all.

### List of headings

- i The traveler's character.
- ii Disproportionate growth.
- iii Pilots and aircrew.
- iv Additional action.
- v Smaller seats.
- vi Uncomfortable aeroplanes
- vii Origins.
- viii A major threat.
- ix Demands for change.
- x Business people.
- xi The roots of the problem.
- xii The pace of life.
- xiii Links to the surroundings.
- xiv Personal experience.

*Example:* Paragraph **A** Answer: **vii**

### Questions 9 – 14

Do the following statements agree with the information in the above reading sample text?

Mark them as follows:

**T** if the statement agrees with the information in the text.

**F** if the statement does not agree with the information in the text.

**NG** if there is no information on this in the text.

9. In the first case of air rage, the man was not punished because the plane was not registered.
10. The statistics on air rage were collected by private monitoring groups.
11. The second most common catalyst for incidents is problems with seating.
12. The environment in a plane makes disagreements more likely to become serious problems.
13. Airlines have been encouraging passengers to bring more items onboard as carry-on luggage.
14. It has been impossible to ban passengers with histories of air-rage.

**Answer:**

1. ii 2. viii 3. xiii 4. xi 5. vi 6. i 7. ix 8. iv 9. F 10. NG 11. T 12. T 13. NG 14. F