

TEST 25

Test 1

READING

READING PASSAGE 1

You should spend about 20 minutes on Questions 1–13, which are based on Reading Passage 1 below.

Crop-growing skyscrapers

By the year 2050, nearly 80% of the Earth's population will live in urban centres. Applying the most conservative estimates to current demographic trends, the human population will increase by about three billion people by then. An estimated 10^9 hectares of new land (about 20% larger than Brazil) will be needed to grow enough food to feed them, if traditional farming methods continue as they are practised today. At present, throughout the world, over 80% of the land that is suitable for raising crops is in use. Historically, some 15% of that has been laid waste by poor management practices. What can be done to ensure enough food for the world's population to live on?

The concept of indoor farming is not new, since hothouse production of tomatoes and other produce has been in vogue for some time. What is new is the urgent need to scale up this technology to accommodate another three billion people. Many believe an entirely new approach to indoor farming is required, employing cutting-edge technologies. One such proposal is for the 'Vertical Farm'. The concept is of multi-storey

buildings in which food crops are grown in environmentally controlled conditions. Situated in the heart of urban centres, they would drastically reduce the amount of transportation required to bring food to consumers. Vertical farms would need to be efficient, cheap to construct and safe to operate. If successfully implemented, proponents claim, vertical farms offer the promise of urban renewal, sustainable production of a safe and varied food supply (through year-round production of all crops), and the eventual repair of ecosystems that have been sacrificed for horizontal farming.

It took humans 10,000 years to learn how to grow most of the crops we now take for granted. Along the way, we despoiled most of the land we worked, often turning verdant, natural ecozones into semi-arid deserts. Within that same time frame, we evolved into an urban species, in which 60% of the human population now lives vertically in cities. This means that, for the majority, we humans have shelter from the elements, yet we subject our food-

bearing plants to the rigours of the great outdoors and can do no more than hope for a good weather year. However, more often than not now, due to a rapidly changing climate, that is not what happens. Massive floods, long droughts, hurricanes and severe monsoons take their toll each year, destroying millions of tons of valuable crops.

The supporters of vertical farming claim many potential advantages for the system. For instance, crops would be produced all year round, as they would be kept in artificially controlled, optimum growing conditions. There would be no weather-related crop failures due to droughts, floods or pests. All the food could be grown organically, eliminating the need for herbicides, pesticides and fertilisers. The system would greatly reduce the incidence of many infectious diseases that are acquired at the agricultural interface. Although the system would consume energy, it would return energy to the grid via methane generation from composting non-edible parts of plants. It would also dramatically reduce fossil fuel use, by cutting out the need for tractors, ploughs and shipping.

A major drawback of vertical farming, however, is that the plants would require artificial light. Without it, those plants nearest the windows would be exposed to more sunlight and grow more quickly, reducing

the efficiency of the system. Single-storey greenhouses have the benefit of natural overhead light: even so, many still need artificial lighting. A multi-storey facility with no natural overhead light would require far more. Generating enough light could be prohibitively expensive, unless cheap, renewable energy is available, and this appears to be rather a future aspiration than a likelihood for the near future.

One variation on vertical farming that has been developed is to grow plants in stacked trays that move on rails. Moving the trays allows the plants to get enough sunlight. This system is already in operation, and works well within a single-storey greenhouse with light reaching it from above: it is not certain, however, that it can be made to work without that overhead natural light.

Vertical farming is an attempt to address the undoubtedly problems that we face in producing enough food for a growing population. At the moment, though, more needs to be done to reduce the detrimental impact it would have on the environment, particularly as regards the use of energy. While it is possible that much of our food will be grown in skyscrapers in future, most experts currently believe it is far more likely that we will simply use the space available on urban rooftops.

Test 1

Questions 1–7

Complete the sentences below.

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

Write your answers in boxes 1–7 on your answer sheet.

Indoor farming

- 1 Some food plants, including , are already grown indoors.
- 2 Vertical farms would be located in , meaning that there would be less need to take them long distances to customers.
- 3 Vertical farms could use methane from plants and animals to produce
- 4 The consumption of would be cut because agricultural vehicles would be unnecessary.
- 5 The fact that vertical farms would need light is a disadvantage.
- 6 One form of vertical farming involves planting in which are not fixed.
- 7 The most probable development is that food will be grown on in towns and cities.

Questions 8–13

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

In boxes 8–13 on your answer sheet, 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

- 8 Methods for predicting the Earth's population have recently changed.
- 9 Human beings are responsible for some of the destruction to food-producing land.
- 10 The crops produced in vertical farms will depend on the season.
- 11 Some damage to food crops is caused by climate change.
- 12 Fertilisers will be needed for certain crops in vertical farms.
- 13 Vertical farming will make plants less likely to be affected by infectious diseases.

TEST 26

Reading

READING

READING PASSAGE 1

You should spend about 20 minutes on Questions 1–13, which are based on Reading Passage 1 below.

Raising the *Mary Rose*

How a sixteenth-century warship was recovered from the seabed

On 19 July 1545, English and French fleets were engaged in a sea battle off the coast of southern England in the area of water called the Solent, between Portsmouth and the Isle of Wight. Among the English vessels was a warship by the name of *Mary Rose*. Built in Portsmouth some 35 years earlier, she had had a long and successful fighting career, and was a favourite of King Henry VIII. Accounts of what happened to the ship vary: while witnesses agree that she was not hit by the French, some maintain that she was outdated, overladen and sailing too low in the water, others that she was mishandled by undisciplined crew. What is undisputed, however, is that the *Mary Rose* sank into the Solent that day, taking at least 500 men with her. After the battle, attempts were made to recover the ship, but these failed.

The *Mary Rose* came to rest on the seabed, lying on her starboard (right) side at an angle of approximately 60 degrees. The hull (the body of the ship) acted as a trap for the sand and mud carried by Solent currents. As a result, the starboard side filled rapidly, leaving the exposed port (left) side to be eroded by marine organisms and mechanical degradation. Because of the way the ship sank, nearly

all of the starboard half survived intact. During the seventeenth and eighteenth centuries, the entire site became covered with a layer of hard grey clay, which minimised further erosion.

Then, on 16 June 1836, some fishermen in the Solent found that their equipment was caught on an underwater obstruction, which turned out to be the *Mary Rose*. Diver John Deane happened to be exploring another sunken ship nearby, and the fishermen approached him, asking him to free their gear. Deane dived down, and found the equipment caught on a timber protruding slightly from the seabed. Exploring further, he uncovered several other timbers and a bronze gun. Deane continued diving on the site intermittently until 1840, recovering several more guns, two bows, various timbers, part of a pump and various other small finds.

The *Mary Rose* then faded into obscurity for another hundred years. But in 1965, military historian and amateur diver Alexander McKee, in conjunction with the British Sub-Aqua Club, initiated a project called 'Solent Ships'. While on paper this was a plan to examine a number of known wrecks in the Solent, what McKee

Test 2

really hoped for was to find the *Mary Rose*. Ordinary search techniques proved unsatisfactory, so McKee entered into collaboration with Harold E. Edgerton, professor of electrical engineering at the Massachusetts Institute of Technology. In 1967, Edgerton's side-scan sonar systems revealed a large, unusually shaped object, which McKee believed was the *Mary Rose*.

Further excavations revealed stray pieces of timber and an iron gun. But the climax to the operation came when, on 5 May 1971, part of the ship's frame was uncovered. McKee and his team now knew for certain that they had found the wreck, but were as yet unaware that it also housed a treasure trove of beautifully preserved artefacts. Interest in the project grew, and in 1979, The Mary Rose Trust was formed, with Prince Charles as its President and Dr Margaret Rule its Archaeological Director. The decision whether or not to salvage the wreck was not an easy one, although an excavation in 1978 had shown that it might be possible to raise the hull. While the original aim was to raise the hull if at all feasible, the operation was not given the go-ahead until January 1982, when all the necessary information was available.

An important factor in trying to salvage the *Mary Rose* was that the remaining

hull was an open shell. This led to an important decision being taken: namely to carry out the lifting operation in three very distinct stages. The hull was attached to a lifting frame via a network of bolts and lifting wires. The problem of the hull being sucked back downwards into the mud was overcome by using 12 hydraulic jacks. These raised it a few centimetres over a period of several days, as the lifting frame rose slowly up its four legs. It was only when the hull was hanging freely from the lifting frame, clear of the seabed and the suction effect of the surrounding mud, that the salvage operation progressed to the second stage. In this stage, the lifting frame was fixed to a hook attached to a crane, and the hull was lifted completely clear of the seabed and transferred underwater into the lifting cradle. This required precise positioning to locate the legs into the 'stabbing guides' of the lifting cradle. The lifting cradle was designed to fit the hull using archaeological survey drawings, and was fitted with air bags to provide additional cushioning for the hull's delicate timber framework. The third and final stage was to lift the entire structure into the air, by which time the hull was also supported from below. Finally, on 11 October 1982, millions of people around the world held their breath as the timber skeleton of the *Mary Rose* was lifted clear of the water, ready to be returned home to Portsmouth.

Reading

Questions 1–4

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

In boxes 1–4 on your answer sheet, 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

- 1 There is some doubt about what caused the *Mary Rose* to sink.
- 2 The *Mary Rose* was the only ship to sink in the battle of 19 July 1545.
- 3 Most of one side of the *Mary Rose* lay undamaged under the sea.
- 4 Alexander McKee knew that the wreck would contain many valuable historical objects.

Questions 5–8

Look at the following statements (Questions 5–8) and the list of dates below.

Match each statement with the correct date, **A–G**.

Write the correct letter, **A–G**, in boxes 5–8 on your answer sheet.

- 5 A search for the *Mary Rose* was launched.
- 6 One person's exploration of the *Mary Rose* site stopped.
- 7 It was agreed that the hull of the *Mary Rose* should be raised.
- 8 The site of the *Mary Rose* was found by chance.

List of Dates			
A	1836	E	1971
B	1840	F	1979
C	1965	G	1982
D	1967		

Test 2

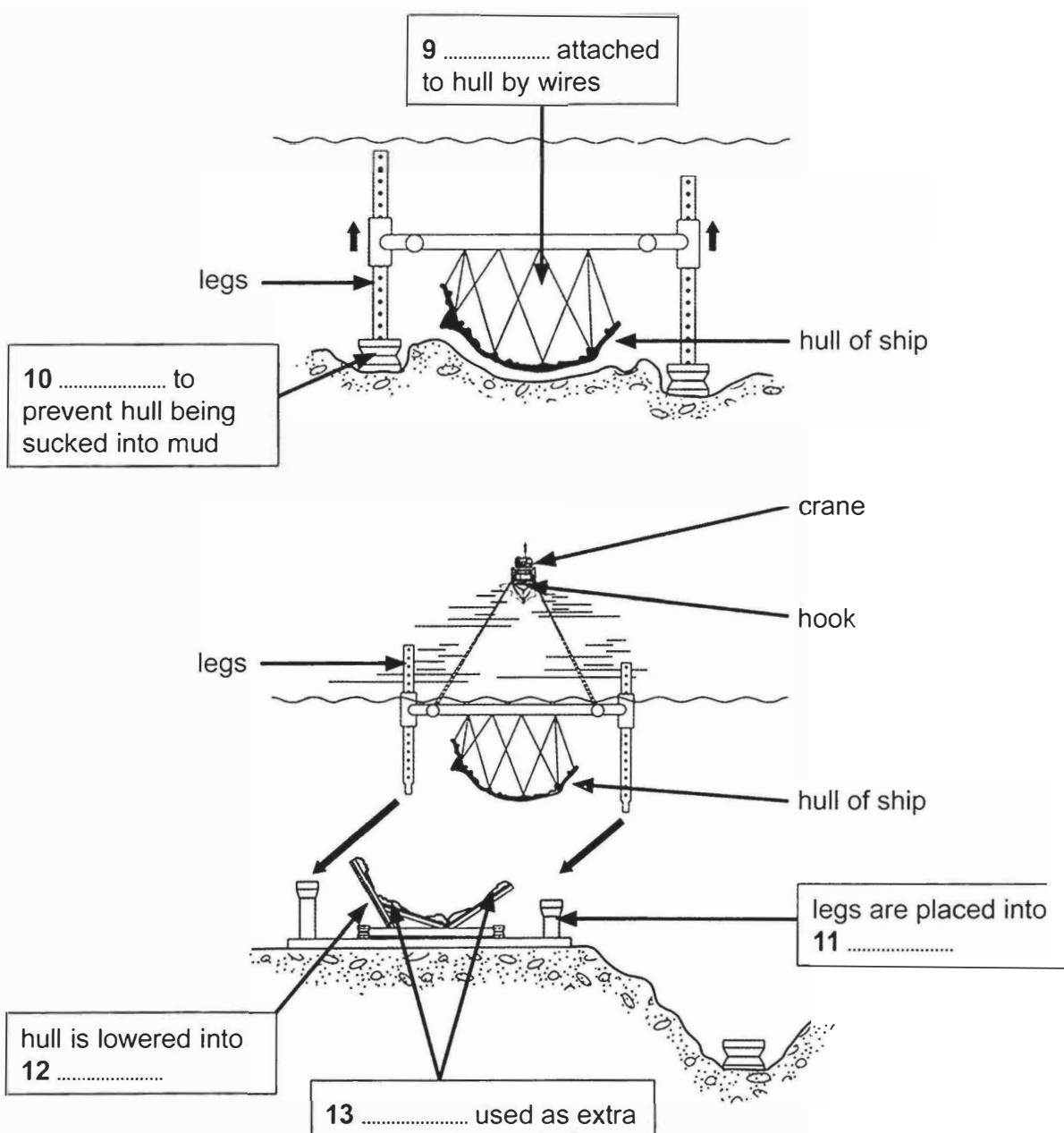
Questions 9–13

Label the diagram below.

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

Write your answers in boxes 9–13 on your answer sheet.

Raising the hull of the *Mary Rose*: Stages one and two



TEST 27

Reading

READING

READING PASSAGE 1

You should spend about 20 minutes on Questions 1–13, which are based on Reading Passage 1 below.

THE STORY OF SILK

The history of the world's most luxurious fabric, from ancient China to the present day

Silk is a fine, smooth material produced from the cocoons – soft protective shells – that are made by mulberry silkworms (insect larvae). Legend has it that it was Lei Tzu, wife of the Yellow Emperor, ruler of China in about 3000 BC, who discovered silkworms. One account of the story goes that as she was taking a walk in her husband's gardens, she discovered that silkworms were responsible for the destruction of several mulberry trees. She collected a number of cocoons and sat down to have a rest. It just so happened that while she was sipping some tea, one of the cocoons that she had collected landed in the hot tea and started to unravel into a fine thread. Lei Tzu found that she could wind this thread around her fingers. Subsequently, she persuaded her husband to allow her to rear silkworms on a grove of mulberry trees. She also devised a special reel to draw the fibres from the cocoon into a single thread so that they would be strong enough to be woven into fabric. While it is unknown just how much of this is true, it is certainly known that silk cultivation has existed in China for several millennia.

Originally, silkworm farming was solely restricted to women, and it was they who were responsible for the growing, harvesting and weaving. Silk quickly grew into a symbol of status, and originally, only royalty were entitled to have clothes made of silk. The rules were gradually relaxed over the years until finally during the Qing Dynasty (1644–1911 AD), even peasants, the lowest caste, were also entitled to wear silk. Sometime during the Han Dynasty (206 BC–220 AD), silk was so prized that it was also used as a unit of currency. Government officials were paid their salary in silk, and farmers paid their taxes in grain and silk. Silk was also used as diplomatic gifts by the emperor. Fishing lines, bowstrings, musical instruments and paper were all made using silk. The earliest indication of silk paper being used was discovered in the tomb of a noble who is estimated to have died around 168 AD.

Demand for this exotic fabric eventually created the lucrative trade route now known as the Silk Road, taking silk westward and bringing gold, silver and

wool to the East. It was named the Silk Road after its most precious commodity, which was considered to be worth more than gold. The Silk Road stretched over 6,000 kilometres from Eastern China to the Mediterranean Sea, following the Great Wall of China, climbing the Pamir mountain range, crossing modern-day Afghanistan and going on to the Middle East, with a major trading market in Damascus. From there, the merchandise was shipped across the Mediterranean Sea. Few merchants travelled the entire route; goods were handled mostly by a series of middlemen.

With the mulberry silkworm being native to China, the country was the world's sole producer of silk for many hundreds of years. The secret of silk-making eventually reached the rest of the world via the Byzantine Empire, which ruled over the Mediterranean region of southern Europe, North Africa and the Middle East during the period 330–1453 AD. According to another legend, monks working for the Byzantine emperor Justinian smuggled silkworm eggs to Constantinople (Istanbul in modern-day Turkey) in 550 AD, concealed inside hollow bamboo walking canes. The Byzantines were as secretive as the Chinese, however, and for many centuries the weaving and trading of silk fabric was a strict imperial monopoly. Then in the seventh century, the Arabs conquered Persia, capturing their magnificent silks in the process. Silk production thus spread through Africa, Sicily and Spain as the Arabs

swept through these lands. Andalusia in southern Spain was Europe's main silk-producing centre in the tenth century. By the thirteenth century, however, Italy had become Europe's leader in silk production and export. Venetian merchants traded extensively in silk and encouraged silk growers to settle in Italy. Even now, silk processed in the province of Como in northern Italy enjoys an esteemed reputation.

The nineteenth century and industrialisation saw the downfall of the European silk industry. Cheaper Japanese silk, trade in which was greatly facilitated by the opening of the Suez Canal, was one of the many factors driving the trend. Then in the twentieth century, new manmade fibres, such as nylon, started to be used in what had traditionally been silk products, such as stockings and parachutes. The two world wars, which interrupted the supply of raw material from Japan, also stifled the European silk industry. After the Second World War, Japan's silk production was restored, with improved production and quality of raw silk. Japan was to remain the world's biggest producer of raw silk, and practically the only major exporter of raw silk, until the 1970s. However, in more recent decades, China has gradually recaptured its position as the world's biggest producer and exporter of raw silk and silk yarn. Today, around 125,000 metric tons of silk are produced in the world, and almost two thirds of that production takes place in China.

Questions 1–9

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 1–9 on your answer sheet.

THE STORY OF SILK

Early silk production in China

- Around 3000 BC, according to legend:
 - silkworm cocoon fell into emperor's wife's **1**
 - emperor's wife invented a **2** to pull out silk fibres
- Only **3** were allowed to produce silk
- Only **4** were allowed to wear silk
- Silk used as a form of **5**
 - e.g. farmers' taxes consisted partly of **silk**
- Silk used for many purposes
 - e.g. evidence found of **6** made from silk around 168 AD



Silk reaches rest of world

- Merchants use Silk Road to take silk westward and bring back **7** and precious metals
- 550 AD: **8** hide silkworm eggs in canes and take them to Constantinople
- Silk production spreads across Middle East and Europe
- 20th century: **9** and other manmade fibres cause decline in silk production

Test 3

Questions 10–13

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

In boxes 10–13 on your answer sheet, 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

- 10 Gold was the most valuable material transported along the Silk Road.
- 11 Most tradesmen only went along certain sections of the Silk Road.
- 12 The Byzantines spread the practice of silk production across the West.
- 13 Silk yarn makes up the majority of silk currently exported from China.

TEST 28

Reading

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Research using twins

To biomedical researchers all over the world, twins offer a precious opportunity to untangle the influence of genes and the environment – of nature and nurture. Because identical twins come from a single fertilized egg that splits into two, they share virtually the same genetic code. Any differences between them – one twin having younger looking skin, for example – must be due to environmental factors such as less time spent in the sun.

Alternatively, by comparing the experiences of identical twins with those of fraternal twins, who come from separate eggs and share on average half their DNA, researchers can quantify the extent to which our genes affect our lives. If identical twins are more similar to each other with respect to an ailment than fraternal twins are, then vulnerability to the disease must be rooted at least in part in heredity.

These two lines of research – studying the differences between identical twins to pinpoint the influence of environment, and comparing identical twins with fraternal ones to measure the role of inheritance – have been crucial to understanding the interplay of nature and nurture in determining our personalities, behavior, and vulnerability to disease.

The idea of using twins to measure the influence of heredity dates back to 1875, when the English scientist Francis Galton first suggested the approach (and coined the phrase ‘nature and nurture’). But twin studies took a surprising twist in the 1980s, with the arrival of studies into identical twins who had been separated at birth and reunited as adults. Over two decades 137 sets of twins eventually visited Thomas Bouchard’s lab in what became known as the Minnesota Study of Twins Reared Apart. Numerous tests were carried out on the twins, and they were each asked more than 15,000 questions.

Bouchard and his colleagues used this mountain of data to identify how far twins were affected by their genetic makeup. The key to their approach was a statistical concept called heritability. In broad terms, the heritability of a trait measures the extent to which differences among members of a population can be explained by differences in their genetics. And wherever Bouchard and other scientists looked, it seemed, they found the invisible hand of genetic influence helping to shape our lives.

Lately, however, twin studies have helped lead scientists to a radical new conclusion: that nature and nurture are not the only

Test 4

elemental forces at work. According to a recent field called epigenetics, there is a third factor also in play, one that in some cases serves as a bridge between the environment and our genes, and in others operates on its own to shape who we are.

Epigenetic processes are chemical reactions tied to neither nature nor nurture but representing what researchers have called a 'third component'. These reactions influence how our genetic code is expressed: how each gene is strengthened or weakened, even turned on or off, to build our bones, brains and all the other parts of our bodies.

If you think of our DNA as an immense piano keyboard and our genes as the keys – each key symbolizing a segment of DNA responsible for a particular note, or trait, and all the keys combining to make us who we are – then epigenetic processes determine when and how each key can be struck, changing the tune being played.

One way the study of epigenetics is revolutionizing our understanding of biology is by revealing a mechanism by which the environment directly impacts on genes. Studies of animals, for example, have shown that when a rat experiences stress during pregnancy, it can cause epigenetic changes in a fetus that lead to behavioral problems as the rodent grows up. Other epigenetic processes appear to occur randomly, while others are normal, such as those that guide embryonic cells

as they become heart, brain, or liver cells, for example.

Geneticist Danielle Reed has worked with many twins over the years and thought deeply about what twin studies have taught us. 'It's very clear when you look at twins that much of what they share is hardwired,' she says. 'Many things about them are absolutely the same and unalterable. But it's also clear, when you get to know them, that other things about them are different. Epigenetics is the origin of a lot of those differences, in my view.'

Reed credits Thomas Bouchard's work for today's surge in twin studies. 'He was the trailblazer,' she says. 'We forgot that 50 years ago things like heart disease were thought to be caused entirely by lifestyle. Schizophrenia was thought to be due to poor mothering. Twin studies have allowed us to be more reflective about what people are actually born with and what's caused by experience.'

Having said that, Reed adds, the latest work in epigenetics promises to take our understanding even further. 'What I like to say is that nature writes some things in pencil and some things in pen,' she says. 'Things written in pen you can't change. That's DNA. But things written in pencil you can. That's epigenetics. Now that we're actually able to look at the DNA and see where the pencil writings are, it's sort of a whole new world.'

Questions 1–4

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

In boxes 1–4 on your answer sheet, 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

- 1 There may be genetic causes for the differences in how young the skin of identical twins looks.
- 2 Twins are at greater risk of developing certain illnesses than non-twins.
- 3 Bouchard advertised in newspapers for twins who had been separated at birth.
- 4 Epigenetic processes are different from both genetic and environmental processes.

Questions 5–9

Look at the following statements (Questions 5–9) and the list of researchers below.

Match each statement with the correct researcher, **A**, **B** or **C**.

Write the correct letter, **A**, **B** or **C**, in boxes 5–9 on your answer sheet.

NB You may use any letter more than once.

List of Researchers

- A** Francis Galton
B Thomas Bouchard
C Danielle Reed

- 5 invented a term used to distinguish two factors affecting human characteristics
- 6 expressed the view that the study of epigenetics will increase our knowledge
- 7 developed a mathematical method of measuring genetic influences
- 8 pioneered research into genetics using twins
- 9 carried out research into twins who had lived apart

Test 4

Questions 10–13

Complete the summary using the list of words, **A–F**, below.

Write the correct letter, **A–F**, in boxes 10–13 on your answer sheet.

Epigenetic processes

In epigenetic processes, **10** influence the activity of our genes, for example in creating our internal **11** The study of epigenetic processes is uncovering a way in which our genes can be affected by our **12** One example is that if a pregnant rat suffers stress, the new-born rat may later show problems in its **13**

A nurture

B organs

C code

D chemicals

E environment

F behaviour/behavior

TEST 29

Test 5

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Cork

Cork – the thick bark of the cork oak tree (*Quercus suber*) – is a remarkable material. It is tough, elastic, buoyant, and fire-resistant, and suitable for a wide range of purposes. It has also been used for millennia: the ancient Egyptians sealed their sarcophagi (stone coffins) with cork, while the ancient Greeks and Romans used it for anything from beehives to sandals.

And the cork oak itself is an extraordinary tree. Its bark grows up to 20 cm in thickness, insulating the tree like a coat wrapped around the trunk and branches and keeping the inside at a constant 20°C all year round. Developed most probably as a defence against forest fires, the bark of the cork oak has a particular cellular structure – with about 40 million cells per cubic centimetre – that technology has never succeeded in replicating. The cells are filled with air, which is why cork is so buoyant. It also has an elasticity that means you can squash it and watch it spring back to its original size and shape when you release the pressure.

Cork oaks grow in a number of Mediterranean countries, including

Portugal, Spain, Italy, Greece and Morocco. They flourish in warm, sunny climates where there is a minimum of 400 millimetres of rain per year, and not more than 800 millimetres. Like grape vines, the trees thrive in poor soil, putting down deep roots in search of moisture and nutrients. Southern Portugal's Alentejo region meets all of these requirements, which explains why, by the early 20th century, this region had become the world's largest producer of cork, and why today it accounts for roughly half of all cork production around the world.

Most cork forests are family-owned. Many of these family businesses, and indeed many of the trees themselves, are around 200 years old. Cork production is, above all, an exercise in patience. From the planting of a cork sapling to the first harvest takes 25 years, and a gap of approximately a decade must separate harvests from an individual tree. And for top-quality cork, it's necessary to wait a further 15 or 20 years. You even have to wait for the right kind of summer's day to harvest cork. If the bark is stripped on a day when it's too cold – or when the air is damp – the tree will be damaged.

Cork harvesting is a very specialised profession. No mechanical means of stripping cork bark has been invented, so the job is done by teams of highly skilled workers. First, they make vertical cuts down the bark using small sharp axes, then lever it away in pieces as large as they can manage. The most skilful cork-strippers prise away a semi-circular husk that runs the length of the trunk from just above ground level to the first branches. It is then dried on the ground for about four months, before being taken to factories, where it is boiled to kill any insects that might remain in the cork. Over 60% of cork then goes on to be made into traditional bottle stoppers, with most of the remainder being used in the construction trade. Corkboard and cork tiles are ideal for thermal and acoustic insulation, while granules of cork are used in the manufacture of concrete.

Recent years have seen the end of the virtual monopoly of cork as the material for bottle stoppers, due to concerns about the effect it may have on the contents of the bottle. This

is caused by a chemical compound called 2,4,6-trichloroanisole (TCA), which forms through the interaction of plant phenols, chlorine and mould. The tiniest concentrations – as little as three or four parts to a trillion – can spoil the taste of the product contained in the bottle. The result has been a gradual yet steady move first towards plastic stoppers and, more recently, to aluminium screw caps. These substitutes are cheaper to manufacture and, in the case of screw caps, more convenient for the user.

The classic cork stopper does have several advantages, however. Firstly, its traditional image is more in keeping with that of the type of high quality goods with which it has long been associated. Secondly – and very importantly – cork is a sustainable product that can be recycled without difficulty. Moreover, cork forests are a resource which support local biodiversity, and prevent desertification in the regions where they are planted. So, given the current concerns about environmental issues, the future of this ancient material once again looks promising.

Test 5

Questions 1–5

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

In boxes 1–5 on your answer sheet, 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

- 1 The cork oak has the thickest bark of any living tree.
- 2 Scientists have developed a synthetic cork with the same cellular structure as natural cork.
- 3 Individual cork oak trees must be left for 25 years between the first and second harvest.
- 4 Cork bark should be stripped in dry atmospheric conditions.
- 5 The only way to remove the bark from cork oak trees is by hand.

Questions 6–13

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 6–13 on your answer sheet.

Comparison of aluminium screw caps and cork bottle stoppers

Advantages of aluminium screw caps

- do not affect the 6 of the bottle contents
- are 7 to produce
- are 8 to use

Advantages of cork bottle stoppers

- suit the 9 of quality products
- made from a 10 material
- easily 11
- cork forests aid 12
- cork forests stop 13 happening

TEST 30

Test 6

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

The risks agriculture faces in developing countries

*Synthesis of an online debate**

- A Two things distinguish food production from all other productive activities: first, every single person needs food each day and has a right to it; and second, it is hugely dependent on nature. These two unique aspects, one political, the other natural, make food production highly vulnerable and different from any other business. At the same time, cultural values are highly entrenched in food and agricultural systems worldwide.
- B Farmers everywhere face major risks, including extreme weather, long-term climate change, and price volatility in input and product markets. However, smallholder farmers in developing countries must in addition deal with adverse environments, both natural, in terms of soil quality, rainfall, etc., and human, in terms of infrastructure, financial systems, markets, knowledge and technology. Counter-intuitively, hunger is prevalent among many smallholder farmers in the developing world.
- C Participants in the online debate argued that our biggest challenge is to address the underlying causes of the agricultural system's inability to ensure sufficient food for all, and they identified as drivers of this problem our dependency on fossil fuels and unsupportive government policies.
- D On the question of mitigating the risks farmers face, most essayists called for greater state intervention. In his essay, Kanayo F. Nwanze, President of the International Fund for Agricultural Development, argued that governments can significantly reduce risks for farmers by providing basic services like roads to get produce more efficiently to markets, or water and food storage facilities to reduce losses. Sophia Murphy, senior advisor to the Institute for Agriculture and Trade Policy, suggested that the procurement and holding of stocks by governments can also help mitigate wild swings in food prices by alleviating uncertainties about market supply.

*The personal names in the text refer to the authors of written contributions to the online debate.

- E Shenggen Fan, Director General of the International Food Policy Research Institute, held up social safety nets and public welfare programmes in Ethiopia, Brazil and Mexico as valuable ways to address poverty among farming families and reduce their vulnerability to agriculture shocks. However, some commentators responded that cash transfers to poor families do not necessarily translate into increased food security, as these programmes do not always strengthen food production or raise incomes. Regarding state subsidies for agriculture, Rokeya Kabir, Executive Director of Bangladesh Nari Progati Sangha, commented in her essay that these 'have not compensated for the stranglehold exercised by private traders. In fact, studies show that sixty percent of beneficiaries of subsidies are not poor, but rich landowners and non-farmer traders.'
- F Nwanze, Murphy and Fan argued that private risk management tools, like private insurance, commodity futures markets, and rural finance can help small-scale producers mitigate risk and allow for investment in improvements. Kabir warned that financial support schemes often encourage the adoption of high-input agricultural practices, which in the medium term may raise production costs beyond the value of their harvests. Murphy noted that when futures markets become excessively financialised they can contribute to short-term price volatility, which increases farmers' food insecurity. Many participants and commentators emphasised that greater transparency in markets is needed to mitigate the impact of volatility, and make evident whether adequate stocks and supplies are available. Others contended that agribusiness companies should be held responsible for paying for negative side effects.
- G Many essayists mentioned climate change and its consequences for small-scale agriculture. Fan explained that 'in addition to reducing crop yields, climate change increases the magnitude and the frequency of extreme weather events, which increase smallholder vulnerability.' The growing unpredictability of weather patterns increases farmers' difficulty in managing weather-related risks. According to this author, one solution would be to develop crop varieties that are more resilient to new climate trends and extreme weather patterns. Accordingly, Pat Mooney, co-founder and executive director of the ETC Group, suggested that 'if we are to survive climate change, we must adopt policies that let peasants diversify the plant and animal species and varieties/breeds that make up our menus.'

Test 6

- H** Some participating authors and commentators argued in favour of community-based and autonomous risk management strategies through collective action groups, co-operatives or producers' groups. Such groups enhance market opportunities for small-scale producers, reduce marketing costs and synchronise buying and selling with seasonal price conditions. According to Murphy, 'collective action offers an important way for farmers to strengthen their political and economic bargaining power, and to reduce their business risks.' One commentator, Giel Ton, warned that collective action does not come as a free good. It takes time, effort and money to organise, build trust and to experiment. Others, like Marcel Vernooij and Marcel Beukeboom, suggested that in order to 'apply what we already know', all stakeholders, including business, government, scientists and civil society, must work together, starting at the beginning of the value chain.
- I** Some participants explained that market price volatility is often worsened by the presence of intermediary purchasers who, taking advantage of farmers' vulnerability, dictate prices. One commentator suggested farmers can gain greater control over prices and minimise price volatility by selling directly to consumers. Similarly, Sonali Bisht, founder and advisor to the Institute of Himalayan Environmental Research and Education (INHERE), India, wrote that community-supported agriculture, where consumers invest in local farmers by subscription and guarantee producers a fair price, is a risk-sharing model worth more attention. Direct food distribution systems not only encourage small-scale agriculture but also give consumers more control over the food they consume, she wrote.

Questions 1–3

Reading Passage 1 has nine paragraphs, A–I.

Which paragraph contains the following information?

Write the correct letter, A–I, in boxes 1–3 on your answer sheet.

- 1 a reference to characteristics that only apply to food production
- 2 a reference to challenges faced only by farmers in certain parts of the world
- 3 a reference to difficulties in bringing about co-operation between farmers

Test 6

Questions 4–9

Look at the following statements (Questions 4–9) and the list of people below.

Match each statement with the correct person, **A–G**.

Write the correct letter, **A–G**, in boxes 4–9 on your answer sheet.

NB You may use any letter more than once.

- 4 Financial assistance from the government does not always go to the farmers who most need it.
- 5 Farmers can benefit from collaborating as a group.
- 6 Financial assistance from the government can improve the standard of living of farmers.
- 7 Farmers may be helped if there is financial input by the same individuals who buy from them.
- 8 Governments can help to reduce variation in prices.
- 9 Improvements to infrastructure can have a major impact on risk for farmers.

List of People

- A** Kanayo F. Nwanze
- B** Sophia Murphy
- C** Shenggen Fan
- D** Rokeya Kabir
- E** Pat Mooney
- F** Giel Ton
- G** Sonali Bisht

Questions 10 and 11

*Choose **TWO** letters, A–E.*

Write the correct letters in boxes 10 and 11 on your answer sheet.

Which **TWO** problems are mentioned which affect farmers with small farms in developing countries?

- A lack of demand for locally produced food
- B lack of irrigation programmes
- C being unable to get insurance
- D the effects of changing weather patterns
- E having to sell their goods to intermediary buyers

Questions 12 and 13

*Choose **TWO** letters, A–E.*

Write the correct letters in boxes 12 and 13 on your answer sheet.

Which **TWO** actions are recommended for improving conditions for farmers?

- A reducing the size of food stocks
- B attempting to ensure that prices rise at certain times of the year
- C organising co-operation between a wide range of interested parties
- D encouraging consumers to take a financial stake in farming
- E making customers aware of the reasons for changing food prices

TEST 31

Reading

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1.

Questions 1–7

Reading Passage 1 has seven paragraphs, **A–G**.

Choose the correct heading for each paragraph from the list of headings below.

Write the correct number, **i–viii**, in boxes 1–7 on your answer sheet.

List of Headings

- i The importance of getting the timing right
- ii Young meets old
- iii Developments to the disadvantage of tortoise populations
- iv Planning a bigger idea
- v Tortoises populate the islands
- vi Carrying out a carefully prepared operation
- vii Looking for a home for the islands' tortoises
- viii The start of the conservation project

- 1 Paragraph A
- 2 Paragraph B
- 3 Paragraph C
- 4 Paragraph D
- 5 Paragraph E
- 6 Paragraph F
- 7 Paragraph G

Flying tortoises

An airborne reintroduction programme has helped conservationists take significant steps to protect the endangered Galápagos tortoise.

- A** Forests of spiny cacti cover much of the uneven lava plains that separate the interior of the Galápagos island of Isabela from the Pacific Ocean. With its five distinct volcanoes, the island resembles a lunar landscape. Only the thick vegetation at the skirt of the often cloud-covered peak of Sierra Negra offers respite from the barren terrain below. This inhospitable environment is home to the giant Galápagos tortoise. Some time after the Galápagos's birth, around five million years ago, the islands were colonised by one or more tortoises from mainland South America. As these ancestral tortoises settled on the individual islands, the different populations adapted to their unique environments, giving rise to at least 14 different subspecies. Island life agreed with them. In the absence of significant predators, they grew to become the largest and longest-living tortoises on the planet, weighing more than 400 kilograms, occasionally exceeding 1.8 metres in length and living for more than a century.
- B** Before human arrival, the archipelago's tortoises numbered in the hundreds of thousands. From the 17th century onwards, pirates took a few on board for food, but the arrival of whaling ships in the 1790s saw this exploitation grow exponentially. Relatively immobile and capable of surviving for months without food or water, the tortoises were taken on board these ships to act as food supplies during long ocean passages. Sometimes, their bodies were processed into high-grade oil. In total, an estimated 200,000 animals were taken from the archipelago before the 20th century. This historical exploitation was then exacerbated when settlers came to the islands. They hunted the tortoises and destroyed their habitat to clear land for agriculture. They also introduced alien species – ranging from cattle, pigs, goats, rats and dogs to plants and ants – that either prey on the eggs and young tortoises or damage or destroy their habitat.
- C** Today, only 11 of the original subspecies survive and of these, several are highly endangered. In 1989, work began on a tortoise-breeding centre just outside the town of Puerto Villamil on Isabela, dedicated to protecting the island's tortoise populations. The centre's captive-breeding programme proved to be extremely successful, and it eventually had to deal with an overpopulation problem.
- D** The problem was also a pressing one. Captive-bred tortoises can't be reintroduced into the wild until they're at least five years old and weigh at least 4.5 kilograms, at which point their size and weight – and their hardened shells – are sufficient to protect them from predators. But if people wait too long after that point, the tortoises eventually become too large to transport.

- E For years, repatriation efforts were carried out in small numbers, with the tortoises carried on the backs of men over weeks of long, treacherous hikes along narrow trails. But in November 2010, the environmentalist and Galápagos National Park liaison officer Godfrey Merlin, a visiting private motor yacht captain and a helicopter pilot gathered around a table in a small café in Puerto Ayora on the island of Santa Cruz to work out more ambitious reintroduction. The aim was to use a helicopter to move 300 of the breeding centre's tortoises to various locations close to Sierra Negra.
- F This unprecedented effort was made possible by the owners of the 67-metre yacht White Cloud, who provided the Galápagos National Park with free use of their helicopter and its experienced pilot, as well as the logistical support of the yacht, its captain and crew. Originally an air ambulance, the yacht's helicopter has a rear double door and a large internal space that's well suited for cargo, so a custom crate was designed to hold up to 33 tortoises with a total weight of about 150 kilograms. This weight, together with that of the fuel, pilot and four crew, approached the helicopter's maximum payload, and there were times when it was clearly right on the edge of the helicopter's capabilities. During a period of three days, a group of volunteers from the breeding centre worked around the clock to prepare the young tortoises for transport. Meanwhile, park wardens, dropped off ahead of time in remote locations, cleared landing sites within the thick brush, cacti and lava rocks.
- G Upon their release, the juvenile tortoises quickly spread out over their ancestral territory, investigating their new surroundings and feeding on the vegetation. Eventually, one tiny tortoise came across a fully grown giant who had been lumbering around the island for around a hundred years. The two stood side by side, a powerful symbol of the regeneration of an ancient species.

Test 7

Questions 8–13

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 8–13 on your answer sheet.

The decline of the Galápagos tortoise

- Originally from mainland South America
- Numbers on Galápagos islands increased, due to lack of predators
- 17th century: small numbers taken onto ships used by **8**
- 1790s: very large numbers taken onto whaling ships, kept for **9**, and also used to produce **10**
- Hunted by **11** on the islands
- Habitat destruction: for the establishment of agriculture and by various **12** not native to the islands, which also fed on baby tortoises and tortoises' **13**

TEST 32

Test 8

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

The History of Glass

From our earliest origins, man has been making use of glass. Historians have discovered that a type of natural glass – obsidian – formed in places such as the mouth of a volcano as a result of the intense heat of an eruption melting sand – was first used as tips for spears. Archaeologists have even found evidence of man-made glass which dates back to 4000 BC; this took the form of glazes used for coating stone beads. It was not until 1500 BC, however, that the first hollow glass container was made by covering a sand core with a layer of molten glass.

Glass blowing became the most common way to make glass containers from the first century BC. The glass made during this time was highly coloured due to the impurities of the raw material. In the first century AD, methods of creating colourless glass were developed, which was then tinted by the addition of colouring materials. The secret of glass making was taken across Europe by the Romans during this century. However, they guarded the skills and technology required to make glass very closely, and it was not until their empire collapsed in 476 AD that glass-making knowledge became widespread throughout Europe and the Middle East. From the 10th century onwards, the Venetians gained a reputation for technical skill and artistic

ability in the making of glass bottles, and many of the city's craftsmen left Italy to set up glassworks throughout Europe.

A major milestone in the history of glass occurred with the invention of lead crystal glass by the English glass manufacturer George Ravenscroft (1632–1683). He attempted to counter the effect of clouding that sometimes occurred in blown glass by introducing lead to the raw materials used in the process. The new glass he created was softer and easier to decorate, and had a higher refractive index, adding to its brilliance and beauty, and it proved invaluable to the optical industry. It is thanks to Ravenscroft's invention that optical lenses, astronomical telescopes, microscopes and the like became possible.

In Britain, the modern glass industry only really started to develop after the repeal of the Excise Act in 1845. Before that time, heavy taxes had been placed on the amount of glass melted in a glasshouse, and were levied continuously from 1745 to 1845. Joseph Paxton's Crystal Palace at London's Great Exhibition of 1851 marked the beginning of glass as a material used in the building industry. This revolutionary new building encouraged the use of glass in public, domestic and horticultural architecture. Glass

manufacturing techniques also improved with the advancement of science and the development of better technology.

From 1887 onwards, glass making developed from traditional mouth-blowing to a semi-automatic process, after factory-owner HM Ashley introduced a machine capable of producing 200 bottles per hour in Castleford, Yorkshire, England – more than three times quicker than any previous production method. Then in 1907, the first fully automated machine was developed in the USA by Michael Owens – founder of the Owens Bottle Machine Company (later the major manufacturers Owens-Illinois) – and installed in its factory. Owens' invention could produce an impressive 2,500 bottles per hour. Other developments followed rapidly, but it was not until the First World War, when Britain became cut off from essential glass suppliers, that glass became part of the scientific sector. Previous to this, glass had been seen as a craft rather than a precise science.

Today, glass making is big business. It has become a modern, hi-tech industry

operating in a fiercely competitive global market where quality, design and service levels are critical to maintaining market share. Modern glass plants are capable of making millions of glass containers a day in many different colours, with green, brown and clear remaining the most popular. Few of us can imagine modern life without glass. It features in almost every aspect of our lives – in our homes, our cars and whenever we sit down to eat or drink. Glass packaging is used for many products, many beverages are sold in glass, as are numerous foodstuffs, as well as medicines and cosmetics.

Glass is an ideal material for recycling, and with growing consumer concern for green issues, glass bottles and jars are becoming ever more popular. Glass recycling is good news for the environment. It saves used glass containers being sent to landfill. As less energy is needed to melt recycled glass than to melt down raw materials, this also saves fuel and production costs. Recycling also reduces the need for raw materials to be quarried, thus saving precious resources.

Test 8

Questions 1–8

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 1–8 on your answer sheet.

The History of Glass

- Early humans used a material called 1 to make the sharp points of their 2
- 4000 BC: 3 made of stone were covered in a coating of man-made glass.
- First century BC: glass was coloured because of the 4 in the material.
- Until 476 AD: Only the 5 knew how to make glass.
- From 10th century: Venetians became famous for making bottles out of glass.
- 17th century: George Ravenscroft developed a process using 6 to avoid the occurrence of 7 in blown glass.
- Mid-19th century: British glass production developed after changes to laws concerning 8

Questions 9–13

In boxes 9–13 on your answer sheet, 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

- 9 In 1887, HM Ashley had the fastest bottle-producing machine that existed at the time.
- 10 Michael Owens was hired by a large US company to design a fully-automated bottle manufacturing machine for them.
- 11 Nowadays, most glass is produced by large international manufacturers.
- 12 Concern for the environment is leading to an increased demand for glass containers.
- 13 It is more expensive to produce recycled glass than to manufacture new glass.

TEST 33

Test 1

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Case Study: *Tourism New Zealand* website

New Zealand is a small country of four million inhabitants, a long-haul flight from all the major tourist-generating markets of the world. Tourism currently makes up 9% of the country's gross domestic product, and is the country's largest export sector. Unlike other export sectors, which make products and then sell them overseas, tourism brings its customers to New Zealand. The product is the country itself – the people, the places and the experiences. In 1999, Tourism New Zealand launched a campaign to communicate a new brand position to the world. The campaign focused on New Zealand's scenic beauty, exhilarating outdoor activities and authentic Maori culture, and it made New Zealand one of the strongest national brands in the world.

A key feature of the campaign was the website www.newzealand.com, which provided potential visitors to New Zealand with a single gateway to everything the destination had to offer. The heart of the website was a database of tourism services operators, both those based in New Zealand and those based abroad which offered tourism services to the country. Any tourism-related business could be listed by filling in a simple form. This meant that even the smallest bed and breakfast address or specialist activity provider could gain a web presence with access to an audience of long-haul visitors. In addition, because participating businesses were able to update the details they gave on a regular basis, the information provided remained accurate. And to maintain and improve standards, Tourism New Zealand organised a scheme whereby organisations appearing on the website underwent an independent evaluation against a set of agreed national standards of quality. As part of this, the effect of each business on the environment was considered.

To communicate the New Zealand experience, the site also carried features relating to famous people and places. One of the most popular was an interview with former New Zealand All Blacks rugby captain Tana Umaga. Another feature that attracted a lot of attention was an interactive journey through a number of the locations chosen for blockbuster films which had made use of New Zealand's stunning scenery as a backdrop. As the site developed, additional features were added to help independent travellers devise their own customised itineraries. To make it easier to plan motoring holidays, the site catalogued the most popular driving routes in the country, highlighting different routes according to the season and indicating distances and times.

Later, a Travel Planner feature was added, which allowed visitors to click and 'bookmark' places or attractions they were interested in, and then view the results on a map. The Travel Planner offered suggested routes and public transport options between the chosen locations. There were also links to accommodation in the area. By registering with the website, users could save their Travel Plan and return to it later, or print it out to take on the visit. The website also had a 'Your Words' section where anyone could submit a blog of their New Zealand travels for possible inclusion on the website.

The Tourism New Zealand website won two Webby awards for online achievement and innovation. More importantly perhaps, the growth of tourism to New Zealand was impressive. Overall tourism expenditure increased by an average of 6.9% per year between 1999 and 2004. From Britain, visits to New Zealand grew at an average annual rate of 13% between 2002 and 2006, compared to a rate of 4% overall for British visits abroad.

The website was set up to allow both individuals and travel organisations to create itineraries and travel packages to suit their own needs and interests. On the website, visitors can search for activities not solely by geographical location, but also by the particular nature of the activity. This is important as research shows that activities are the key driver of visitor satisfaction, contributing 74% to visitor satisfaction, while transport and accommodation account for the remaining 26%. The more activities that visitors undertake, the more satisfied they will be. It has also been found that visitors enjoy cultural activities most when they are interactive, such as visiting a *marae* (meeting ground) to learn about traditional Maori life. Many long-haul travellers enjoy such learning experiences, which provide them with stories to take home to their friends and family. In addition, it appears that visitors to New Zealand don't want to be 'one of the crowd' and find activities that involve only a few people more special and meaningful.

It could be argued that New Zealand is not a typical destination. New Zealand is a small country with a visitor economy composed mainly of small businesses. It is generally perceived as a safe English-speaking country with a reliable transport infrastructure. Because of the long-haul flight, most visitors stay for longer (average 20 days) and want to see as much of the country as possible on what is often seen as a once-in-a-lifetime visit. However, the underlying lessons apply anywhere – the effectiveness of a strong brand, a strategy based on unique experiences and a comprehensive and user-friendly website.

Test 1

Questions 1–7

Complete the table below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 1–7 on your answer sheet.

Section of website	Comments
Database of tourism services	<ul style="list-style-type: none">• easy for tourism-related businesses to get on the list• allowed businesses to 1 information regularly• provided a country-wide evaluation of businesses, including their impact on the 2
Special features on local topics	<ul style="list-style-type: none">• e.g. an interview with a former sports 3 , and an interactive tour of various locations used in 4
Information on driving routes	<ul style="list-style-type: none">• varied depending on the 5
Travel Planner	<ul style="list-style-type: none">• included a map showing selected places, details of public transport and local 6
‘Your Words’	<ul style="list-style-type: none">• travellers could send a link to their 7

Questions 8–13

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

In boxes 8–13 on your answer sheet, 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

- 8 The website www.newzealand.com aimed to provide ready-made itineraries and packages for travel companies and individual tourists.
- 9 It was found that most visitors started searching on the website by geographical location.
- 10 According to research, 26% of visitor satisfaction is related to their accommodation.
- 11 Visitors to New Zealand like to become involved in the local culture.
- 12 Visitors like staying in small hotels in New Zealand rather than in larger ones.
- 13 Many visitors feel it is unlikely that they will return to New Zealand after their visit.

TEST 34

Test 2

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Bringing cinnamon to Europe

Cinnamon is a sweet, fragrant spice produced from the inner bark of trees of the genus *Cinnamomum*, which is native to the Indian sub-continent. It was known in biblical times, and is mentioned in several books of the Bible, both as an ingredient that was mixed with oils for anointing people's bodies, and also as a token indicating friendship among lovers and friends. In ancient Rome, mourners attending funerals burnt cinnamon to create a pleasant scent. Most often, however, the spice found its primary use as an additive to food and drink. In the Middle Ages, Europeans who could afford the spice used it to flavour food, particularly meat, and to impress those around them with their ability to purchase an expensive condiment from the 'exotic' East. At a banquet, a host would offer guests a plate with various spices piled upon it as a sign of the wealth at his or her disposal. Cinnamon was also reported to have health benefits, and was thought to cure various ailments, such as indigestion.

Toward the end of the Middle Ages, the European middle classes began to desire the lifestyle of the elite, including their consumption of spices. This led to a growth in demand for cinnamon and other spices. At that time, cinnamon was transported by Arab merchants, who closely guarded the secret of the source of the spice from potential rivals. They took it from India, where it was grown, on camels via an overland route to the Mediterranean. Their journey ended when they reached Alexandria. European traders sailed there to purchase their supply of cinnamon, then brought it back to Venice. The spice then travelled from that great trading city to markets all around Europe. Because the overland trade route allowed for only small quantities of the spice to reach Europe, and because Venice had a virtual monopoly of the trade, the Venetians could set the price of cinnamon exorbitantly high. These prices, coupled with the increasing demand, spurred the search for new routes to Asia by Europeans eager to take part in the spice trade.

Seeking the high profits promised by the cinnamon market, Portuguese traders arrived on the island of Ceylon in the Indian Ocean toward the end of the 15th century. Before Europeans arrived on the island, the state had organized the cultivation of cinnamon. People belonging to the ethnic group called the Salagama would peel the bark off young shoots of the cinnamon plant in the rainy season, when the wet bark was more pliable. During the peeling process, they curled the bark into the 'stick' shape still associated with the spice today. The Salagama then gave the finished product to the king as a form of tribute. When the Portuguese arrived, they needed to increase

production significantly, and so enslaved many other members of the Ceylonese native population, forcing them to work in cinnamon harvesting. In 1518, the Portuguese built a fort on Ceylon, which enabled them to protect the island, so helping them to develop a monopoly in the cinnamon trade and generate very high profits. In the late 16th century, for example, they enjoyed a tenfold profit when shipping cinnamon over a journey of eight days from Ceylon to India.

When the Dutch arrived off the coast of southern Asia at the very beginning of the 17th century, they set their sights on displacing the Portuguese as kings of cinnamon. The Dutch allied themselves with Kandy, an inland kingdom on Ceylon. In return for payments of elephants and cinnamon, they protected the native king from the Portuguese. By 1640, the Dutch broke the 150-year Portuguese monopoly when they overran and occupied their factories. By 1658, they had permanently expelled the Portuguese from the island, thereby gaining control of the lucrative cinnamon trade.

In order to protect their hold on the market, the Dutch, like the Portuguese before them, treated the native inhabitants harshly. Because of the need to boost production and satisfy Europe's ever-increasing appetite for cinnamon, the Dutch began to alter the harvesting practices of the Ceylonese. Over time, the supply of cinnamon trees on the island became nearly exhausted, due to systematic stripping of the bark. Eventually, the Dutch began cultivating their own cinnamon trees to supplement the diminishing number of wild trees available for use.

Then, in 1796, the English arrived on Ceylon, thereby displacing the Dutch from their control of the cinnamon monopoly. By the middle of the 19th century, production of cinnamon reached 1,000 tons a year, after a lower grade quality of the spice became acceptable to European tastes. By that time, cinnamon was being grown in other parts of the Indian Ocean region and in the West Indies, Brazil, and Guyana. Not only was a monopoly of cinnamon becoming impossible, but the spice trade overall was diminishing in economic potential, and was eventually superseded by the rise of trade in coffee, tea, chocolate, and sugar.

Test 2

Questions 1–9

Complete the notes below.

*Choose **ONE WORD ONLY** from the passage for each answer.*

Write your answers in boxes 1–9 on your answer sheet.

The Early History of Cinnamon

- Biblical times:** added to 1
used to show 2 between people
- Ancient Rome:** used for its sweet smell at 3
- Middle Ages:** added to food, especially meat
was an indication of a person's 4
- known as a treatment for 5 and other health problems
grown in 6
- merchants used 7 to bring it to the Mediterranean
arrived in the Mediterranean at 8
- traders took it to 9 and sold it to destinations around Europe

Reading

Questions 10–13

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

In boxes 10–13 on your answer sheet, 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

- 10 The Portuguese had control over the cinnamon trade in Ceylon throughout the 16th century.
- 11 The Dutch took over the cinnamon trade from the Portuguese as soon as they arrived in Ceylon.
- 12 The trees planted by the Dutch produced larger quantities of cinnamon than the wild trees.
- 13 The spice trade maintained its economic importance during the 19th century.

READING**READING PASSAGE 1**

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

The coconut palm

For millennia, the coconut has been central to the lives of Polynesian and Asian peoples. In the western world, on the other hand, coconuts have always been exotic and unusual, sometimes rare. The Italian merchant traveller Marco Polo apparently saw coconuts in South Asia in the late 13th century, and among the mid-14th-century travel writings of Sir John Mandeville there is mention of 'great Notes of Ynde' (great Nuts of India). Today, images of palm-fringed tropical beaches are clichés in the west to sell holidays, chocolate bars, fizzy drinks and even romance.

Typically, we envisage coconuts as brown cannonballs that, when opened, provide sweet white flesh. But we see only part of the fruit and none of the plant from which they come. The coconut palm has a smooth, slender, grey trunk, up to 30 metres tall. This is an important source of timber for building houses, and is increasingly being used as a replacement for endangered hardwoods in the furniture construction industry. The trunk is surmounted by a rosette of leaves, each of which may be up to six metres long. The leaves have hard veins in their centres which, in many parts of the world, are used as brushes after the green part of the leaf has been stripped away. Immature coconut flowers are tightly clustered together among the leaves at the top of the trunk. The flower stems may be tapped for their sap to produce a drink, and the sap can also be reduced by boiling to produce a type of sugar used for cooking.

Coconut palms produce as many as seventy fruits per year, weighing more than a kilogram each. The wall of the fruit has three layers: a waterproof outer layer, a fibrous middle layer and a hard, inner layer. The thick fibrous middle layer produces coconut fibre, 'coir', which has numerous uses and is particularly important in manufacturing ropes. The woody innermost layer, the shell, with its three prominent 'eyes', surrounds the seed. An important product obtained from the shell is charcoal, which is widely used in various industries as well as in the home as a cooking fuel. When broken in half, the shells are also used as bowls in many parts of Asia.

Inside the shell are the nutrients (endosperm) needed by the developing seed. Initially, the endosperm is a sweetish liquid, coconut water, which is enjoyed as a drink, but also provides the hormones which encourage other plants to grow more rapidly and produce higher yields. As the fruit matures, the coconut water gradually solidifies to form the brilliant white, fat-rich, edible flesh or meat. Dried coconut flesh, 'copra', is made into coconut oil and coconut milk, which are widely used in cooking in different parts of the world, as well as in cosmetics. A derivative of coconut fat, glycerine, acquired strategic

importance in a quite different sphere, as Alfred Nobel introduced the world to his nitroglycerine-based invention: dynamite.

Their biology would appear to make coconuts the great maritime voyagers and coastal colonizers of the plant world. The large, energy-rich fruits are able to float in water and tolerate salt, but cannot remain viable indefinitely; studies suggest after about 110 days at sea they are no longer able to germinate. Literally cast onto desert island shores, with little more than sand to grow in and exposed to the full glare of the tropical sun, coconut seeds are able to germinate and root. The air pocket in the seed, created as the endosperm solidifies, protects the embryo. In addition, the fibrous fruit wall that helped it to float during the voyage stores moisture that can be taken up by the roots of the coconut seedling as it starts to grow.

There have been centuries of academic debate over the origins of the coconut. There were no coconut palms in West Africa, the Caribbean or the east coast of the Americas before the voyages of the European explorers Vasco da Gama and Columbus in the late 15th and early 16th centuries. 16th century trade and human migration patterns reveal that Arab traders and European sailors are likely to have moved coconuts from South and Southeast Asia to Africa and then across the Atlantic to the east coast of America. But the origin of coconuts discovered along the west coast of America by 16th century sailors has been the subject of centuries of discussion. Two diametrically opposed origins have been proposed: that they came from Asia, or that they were native to America. Both suggestions have problems. In Asia, there is a large degree of coconut diversity and evidence of millennia of human use – but there are no relatives growing in the wild. In America, there are close coconut relatives, but no evidence that coconuts are indigenous. These problems have led to the intriguing suggestion that coconuts originated on coral islands in the Pacific and were dispersed from there.

Test 3

Questions 1–8

Complete the table below.

*Choose **ONE WORD ONLY** from the passage for each answer.*

Write your answers in boxes 1–8 on your answer sheet.

THE COCONUT PALM		
Part	Description	Uses
trunk	up to 30 metres	timber for houses and the making of 1
leaves	up to 6 metres long	to make brushes
flowers	at the top of the trunk	stems provide sap, used as a drink or a source of 2
fruits	outer layer	
	middle layer (coir fibres)	used for 3 , etc.
	inner layer (shell)	a source of 4 (when halved) for 5
	coconut water	a drink a source of 6 for other plants
	coconut flesh	oil and milk for cooking and 7 glycerine (an ingredient in 8)

Questions 9–13

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

In boxes 9–13 on your answer sheet, 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

- 9 Coconut seeds need shade in order to germinate.
- 10 Coconuts were probably transported to Asia from America in the 16th century.
- 11 Coconuts found on the west coast of America were a different type from those found on the east coast.
- 12 All the coconuts found in Asia are cultivated varieties.
- 13 Coconuts are cultivated in different ways in America and the Pacific.

TEST 36

Test 4

READING

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Cutty Sark: the fastest sailing ship of all time

The nineteenth century was a period of great technological development in Britain, and for shipping the major changes were from wind to steam power, and from wood to iron and steel.

The fastest commercial sailing vessels of all time were clippers, three-masted ships built to transport goods around the world, although some also took passengers. From the 1840s until 1869, when the Suez Canal opened and steam propulsion was replacing sail, clippers dominated world trade. Although many were built, only one has survived more or less intact: *Cutty Sark*, now on display in Greenwich, southeast London.

Cutty Sark's unusual name comes from the poem *Tam O'Shanter* by the Scottish poet Robert Burns. Tam, a farmer, is chased by a witch called Nannie, who is wearing a 'cutty sark' – an old Scottish name for a short nightdress. The witch is depicted in *Cutty Sark*'s figurehead – the carving of a woman typically at the front of old sailing ships. In legend, and in Burns's poem, witches cannot cross water, so this was a rather strange choice of name for a ship.

Cutty Sark was built in Dumbarton, Scotland, in 1869, for a shipping company owned by John Willis. To carry out construction, Willis chose a new shipbuilding firm, Scott & Linton, and ensured that the contract with them put him in a very strong position. In the end, the firm was forced out of business, and the ship was finished by a competitor.

Willis's company was active in the tea trade between China and Britain, where speed could bring shipowners both profits and prestige, so *Cutty Sark* was designed to make the journey more quickly than any other ship. On her maiden voyage, in 1870, she set sail from London, carrying large amounts of goods to China. She returned laden with tea, making the journey back to London in four months. However, *Cutty Sark* never lived up to the high expectations of her owner, as a result of bad winds and various misfortunes. On one occasion, in 1872, the ship and a rival clipper, *Thermopylae*, left port in China on the same day. Crossing the Indian Ocean, *Cutty Sark* gained a lead of over 400 miles, but then her rudder was severely damaged in stormy seas, making her impossible to steer. The ship's crew had the daunting task of repairing the rudder at sea, and only succeeded at the second attempt. *Cutty Sark* reached London a week after *Thermopylae*.



Steam ships posed a growing threat to clippers, as their speed and cargo capacity increased. In addition, the opening of the Suez Canal in 1869, the same year that *Cutty Sark* was launched, had a serious impact. While steam ships could make use of the quick, direct route between the Mediterranean and the Red Sea, the canal was of no use to sailing ships, which needed the much stronger winds of the oceans, and so had to sail a far greater distance. Steam ships reduced the journey time between Britain and China by approximately two months.

By 1878, tea traders weren't interested in *Cutty Sark*, and instead, she took on the much less prestigious work of carrying any cargo between any two ports in the world. In 1880, violence aboard the ship led ultimately to the replacement of the captain with an incompetent drunkard who stole the crew's wages. He was suspended from service, and a new captain appointed. This marked a turnaround and the beginning of the most successful period in *Cutty Sark*'s working life, transporting wool from Australia to Britain. One such journey took just under 12 weeks, beating every other ship sailing that year by around a month.

The ship's next captain, Richard Woodget, was an excellent navigator, who got the best out of both his ship and his crew. As a sailing ship, *Cutty Sark* depended on the strong trade winds of the southern hemisphere, and Woodget took her further south than any previous captain, bringing her dangerously close to icebergs off the southern tip of South America. His gamble paid off, though, and the ship was the fastest vessel in the wool trade for ten years.

As competition from steam ships increased in the 1890s, and *Cutty Sark* approached the end of her life expectancy, she became less profitable. She was sold to a Portuguese firm, which renamed her *Ferreira*. For the next 25 years, she again carried miscellaneous cargoes around the world.

Badly damaged in a gale in 1922, she was put into Falmouth harbour in southwest England, for repairs. Wilfred Dowman, a retired sea captain who owned a training vessel, recognised her and tried to buy her, but without success. She returned to Portugal and was sold to another Portuguese company. Dowman was determined, however, and offered a high price: this was accepted, and the ship returned to Falmouth the following year and had her original name restored.

Dowman used *Cutty Sark* as a training ship, and she continued in this role after his death. When she was no longer required, in 1954, she was transferred to dry dock at Greenwich to go on public display. The ship suffered from fire in 2007, and again, less seriously, in 2014, but now *Cutty Sark* attracts a quarter of a million visitors a year.



Test 4

Questions 1–8

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

In boxes 1–8 on your answer sheet, 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

- 1 Clippers were originally intended to be used as passenger ships.
- 2 *Cutty Sark* was given the name of a character in a poem.
- 3 The contract between John Willis and Scott & Linton favoured Willis.
- 4 John Willis wanted *Cutty Sark* to be the fastest tea clipper travelling between the UK and China.
- 5 Despite storm damage, *Cutty Sark* beat *Thermopylae* back to London.
- 6 The opening of the Suez Canal meant that steam ships could travel between Britain and China faster than clippers.
- 7 Steam ships sometimes used the ocean route to travel between London and China.
- 8 Captain Woodget put *Cutty Sark* at risk of hitting an iceberg.

Questions 9–13

Complete the sentences below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 9–13 on your answer sheet.

- 9 After 1880, *Cutty Sark* carried as its main cargo during its most successful time.
- 10 As a captain and, Woodget was very skilled.
- 11 Ferreira went to Falmouth to repair damage that a had caused.
- 12 Between 1923 and 1954, *Cutty Sark* was used for
- 13 *Cutty Sark* has twice been damaged by in the 21st century.

TEST 37

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

THE IMPORTANCE OF CHILDREN'S PLAY

Brick by brick, six-year-old Alice is building a magical kingdom. Imagining fairy-tale turrets and fire-breathing dragons, wicked witches and gallant heroes, she's creating an enchanting world. Although she isn't aware of it, this fantasy is helping her take her first steps towards her capacity for creativity and so it will have important repercussions in her adult life.

Minutes later, Alice has abandoned the kingdom in favour of playing schools with her younger brother. When she bosses him around as his 'teacher', she's practising how to regulate her emotions through pretence. Later on, when they tire of this and settle down with a board game, she's learning about the need to follow rules and take turns with a partner.

'Play in all its rich variety is one of the highest achievements of the human species,' says Dr David Whitebread from the Faculty of Education at the University of Cambridge, UK. 'It underpins how we develop as intellectual, problem-solving adults and is crucial to our success as a highly adaptable species.'

Recognising the importance of play is not new: over two millennia ago, the Greek philosopher Plato extolled its virtues as a means of developing skills for adult life, and ideas about play-based learning have been developing since the 19th century.

But we live in changing times, and Whitebread is mindful of a worldwide decline in play, pointing out that over half the people in the world now live in cities. 'The opportunities for free play, which I experienced almost every day of my childhood, are becoming increasingly scarce,' he says. Outdoor play is curtailed by perceptions of risk to do with traffic, as well as parents' increased wish to protect their children from being the victims of crime, and by the emphasis on 'earlier is better' which is leading to greater competition in academic learning and schools.

International bodies like the United Nations and the European Union have begun to develop policies concerned with children's right to play, and to consider implications for leisure facilities and educational programmes. But what they often lack is the evidence to base policies on.

'The type of play we are interested in is child-initiated, spontaneous and unpredictable – but, as soon as you ask a five-year-old "to play", then you as the researcher have intervened,' explains Dr Sara Baker. 'And we want to know what the long-term impact of play is. It's a real challenge.'

Dr Jenny Gibson agrees, pointing out that although some of the steps in the puzzle of how and why play is important have been looked at, there is very little data on the impact it has on the child's later life.

Now, thanks to the university's new Centre for Research on Play in Education, Development and Learning (PEDAL), Whitebread, Baker, Gibson and a team of researchers hope to provide evidence on the role played by play in how a child develops.

'A strong possibility is that play supports the early development of children's self-control,' explains Baker. 'This is our ability to develop awareness of our own thinking processes – it influences how effectively we go about undertaking challenging activities.'

In a study carried out by Baker with toddlers and young pre-schoolers, she found that children with greater self-control solved problems more quickly when exploring an unfamiliar set-up requiring scientific reasoning. 'This sort of evidence makes us think that giving children the chance to play will make them more successful problem-solvers in the long run.'

If playful experiences do facilitate this aspect of development, say the researchers, it could be extremely significant for educational practices, because the ability to self-regulate has been shown to be a key predictor of academic performance.

Gibson adds: 'Playful behaviour is also an important indicator of healthy social and emotional development. In my previous research, I investigated how observing children at play can give us important clues about their well-being and can even be useful in the diagnosis of neurodevelopmental disorders like autism.'

Whitebread's recent research has involved developing a play-based approach to supporting children's writing. 'Many primary school children find writing difficult, but we showed in a previous study that a playful stimulus was far more effective than an instructional one.' Children wrote longer and better-structured stories when they first played with dolls representing characters in the story. In the latest study, children first created their story with Lego*, with similar results. 'Many teachers commented that they had always previously had children saying they didn't know what to write about. With the Lego building, however, not a single child said this through the whole year of the project.'

Whitebread, who directs PEDAL, trained as a primary school teacher in the early 1970s, when, as he describes, 'the teaching of young children was largely a quiet backwater, untroubled by any serious intellectual debate or controversy.' Now, the landscape is very different, with hotly debated topics such as school starting age.

'Somehow the importance of play has been lost in recent decades. It's regarded as something trivial, or even as something negative that contrasts with "work". Let's not lose sight of its benefits, and the fundamental contributions it makes to human achievements in the arts, sciences and technology. Let's make sure children have a rich diet of play experiences.'

* Lego: coloured plastic building blocks and other pieces that can be joined together

Questions 1–8

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 1–8 on your answer sheet.

Children's play

Uses of children's play

- building a 'magical kingdom' may help develop 1
- board games involve 2 and turn-taking

Recent changes affecting children's play

- populations of 3 have grown
- opportunities for free play are limited due to
 - fear of 4
 - fear of 5
 - increased 6 in schools

International policies on children's play

- it is difficult to find 7 to support new policies
- research needs to study the impact of play on the rest of the child's 8

Questions 9–13

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

In boxes 9–13 on your answer sheet, 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

- 9 Children with good self-control are known to be likely to do well at school later on.
- 10 The way a child plays may provide information about possible medical problems.
- 11 Playing with dolls was found to benefit girls' writing more than boys' writing.
- 12 Children had problems thinking up ideas when they first created the story with Lego.
- 13 People nowadays regard children's play as less significant than they did in the past.

READING**READING PASSAGE 1**

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

Alexander Henderson (1831–1913)

Born in Scotland, Henderson emigrated to Canada in 1855 and became a well-known landscape photographer

Alexander Henderson was born in Scotland in 1831 and was the son of a successful merchant. His grandfather, also called Alexander, had founded the family business, and later became the first chairman of the National Bank of Scotland. The family had extensive landholdings in Scotland. Besides its residence in Edinburgh, it owned Press Estate, 650 acres of farmland about 35 miles southeast of the city. The family often stayed at Press Castle, the large mansion on the northern edge of the property, and Alexander spent much of his childhood in the area, playing on the beach near Eyemouth or fishing in the streams nearby.

Even after he went to school at Murcheson Academy on the outskirts of Edinburgh, Henderson returned to Press at weekends. In 1849 he began a three-year apprenticeship to become an accountant. Although he never liked the prospect of a business career, he stayed with it to please his family. In October 1855, however, he emigrated to Canada with his wife Agnes Elder Robertson and they settled in Montreal.

Henderson learned photography in Montreal around the year 1857 and quickly took it up as a serious amateur. He became a personal friend and colleague of the Scottish-Canadian photographer William Notman. The two men made a photographic excursion to Niagara Falls in 1860 and they cooperated on experiments with magnesium flares as a source of artificial light in 1865. They belonged to the same societies and were among the founding members of the Art Association of Montreal. Henderson acted as chairman of the association's first meeting, which was held in Notman's studio on 11 January 1860.

In spite of their friendship, their styles of photography were quite different. While Notman's landscapes were noted for their bold realism, Henderson for the first 20 years of his career produced romantic images, showing the strong influence of the British landscape tradition. His artistic and technical progress was rapid and in 1865 he published his first major collection of landscape photographs. The publication had limited circulation (only seven copies have ever been found), and was called *Canadian Views and Studies*. The contents of each copy vary significantly and have proved a useful source for evaluating Henderson's early work.

This text is taken, for the most part, verbatim from the *Dictionary of Canadian Biography* Volume XIV (1911–1920). For design purposes, quotation marks have been omitted. Source: http://www.biographi.ca/en/bio/henderson_alexander_1831_1913_14E.html. Reproduced with permission.

In 1866, he gave up his business to open a photographic studio, advertising himself as a portrait and landscape photographer. From about 1870 he dropped portraiture to specialize in landscape photography and other views. His numerous photographs of city life revealed in street scenes, houses, and markets are alive with human activity, and although his favourite subject was landscape he usually composed his scenes around such human pursuits as farming the land, cutting ice on a river, or sailing down a woodland stream. There was sufficient demand for these types of scenes and others he took depicting the lumber trade, steamboats and waterfalls to enable him to make a living. There was little competing hobby or amateur photography before the late 1880s because of the time-consuming techniques involved and the weight of the equipment. People wanted to buy photographs as souvenirs of a trip or as gifts, and catering to this market, Henderson had stock photographs on display at his studio for mounting, framing, or inclusion in albums.

Henderson frequently exhibited his photographs in Montreal and abroad, in London, Edinburgh, Dublin, Paris, New York, and Philadelphia. He met with greater success in 1877 and 1878 in New York when he won first prizes in the exhibition held by E and H T Anthony and Company for landscapes using the Lambertype process. In 1878 his work won second prize at the world exhibition in Paris.

In the 1870s and 1880s Henderson travelled widely throughout Quebec and Ontario, in Canada, documenting the major cities of the two provinces and many of the villages in Quebec. He was especially fond of the wilderness and often travelled by canoe on the Blanche, du Lièvre, and other noted eastern rivers. He went on several occasions to the Maritimes and in 1872 he sailed by yacht along the lower north shore of the St Lawrence River. That same year, while in the lower St Lawrence River region, he took some photographs of the construction of the Intercolonial Railway. This undertaking led in 1875 to a commission from the railway to record the principal structures along the almost-completed line connecting Montreal to Halifax. Commissions from other railways followed. In 1876 he photographed bridges on the Quebec, Montreal, Ottawa and Occidental Railway between Montreal and Ottawa. In 1885 he went west along the Canadian Pacific Railway (CPR) as far as Rogers Pass in British Columbia, where he took photographs of the mountains and the progress of construction.

In 1892 Henderson accepted a full-time position with the CPR as manager of a photographic department which he was to set up and administer. His duties included spending four months in the field each year. That summer he made his second trip west, photographing extensively along the railway line as far as Victoria. He continued in this post until 1897, when he retired completely from photography.

When Henderson died in 1913, his huge collection of glass negatives was stored in the basement of his house. Today collections of his work are held at the National Archives of Canada, Ottawa, and the McCord Museum of Canadian History, Montreal.

Questions 1–8

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

In boxes 1–8 on your answer sheet, 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

- 1 Henderson rarely visited the area around Press estate when he was younger.
- 2 Henderson pursued a business career because it was what his family wanted.
- 3 Henderson and Notman were surprised by the results of their 1865 experiment.
- 4 There were many similarities between Henderson's early landscapes and those of Notman.
- 5 The studio that Henderson opened in 1866 was close to his home.
- 6 Henderson gave up portraiture so that he could focus on taking photographs of scenery.
- 7 When Henderson began work for the Intercolonial Railway, the Montreal to Halifax line had been finished.
- 8 Henderson's last work as a photographer was with the Canadian Pacific Railway.

Questions 9–13

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 9–13 on your answer sheet.

Alexander Henderson

Early life

- was born in Scotland in 1831 –father was a **9**
- trained as an accountant, emigrated to Canada in 1855

Start of a photographic career

- opened up a photographic studio in 1866
- took photos of city life, but preferred landscape photography
- people bought Henderson's photos because photography took up considerable time and the **10** was heavy
- the photographs Henderson sold were **11** or souvenirs

Travelling as a professional photographer

- travelled widely in Quebec and Ontario in 1870s and 1880s
- took many trips along eastern rivers in a **12**
- worked for Canadian railways between 1875 and 1897
- worked for CPR in 1885 and photographed the **13** and the railway at Rogers Pass

TEST 39

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

The concept of intelligence

- A Looked at in one way, everyone knows what intelligence is; looked at in another way, no one does. In other words, people all have unconscious notions – known as ‘implicit theories’ – of intelligence, but no one knows for certain what it actually is. This chapter addresses how people conceptualize intelligence, whatever it may actually be.
- But why should we even care what people think intelligence is, as opposed only to valuing whatever it actually is? There are at least four reasons people’s conceptions of intelligence matter.
- B First, implicit theories of intelligence drive the way in which people perceive and evaluate their own intelligence and that of others. To better understand the judgments people make about their own and others’ abilities, it is useful to learn about people’s implicit theories. For example, parents’ implicit theories of their children’s language development will determine at what ages they will be willing to make various corrections in their children’s speech. More generally, parents’ implicit theories of intelligence will determine at what ages they believe their children are ready to perform various cognitive tasks. Job interviewers will make hiring decisions on the basis of their implicit theories of intelligence. People will decide who to be friends with on the basis of such theories. In sum, knowledge about implicit theories of intelligence is important because this knowledge is so often used by people to make judgments in the course of their everyday lives.
- C Second, the implicit theories of scientific investigators ultimately give rise to their explicit theories. Thus it is useful to find out what these implicit theories are. Implicit theories provide a framework that is useful in defining the general scope of a phenomenon – especially a not-well-understood phenomenon. These implicit theories can suggest what aspects of the phenomenon have been more or less attended to in previous investigations.
- D Third, implicit theories can be useful when an investigator suspects that existing explicit theories are wrong or misleading. If an investigation of implicit theories reveals little correspondence between the extant implicit and explicit theories, the implicit theories may be wrong. But the possibility also needs to be taken into account that the explicit theories are wrong and in need of correction or supplementation. For example, some implicit theories of intelligence suggest the need for expansion of some of our explicit theories of the construct.

- E** Finally, understanding implicit theories of intelligence can help elucidate developmental and cross-cultural differences. As mentioned earlier, people have expectations for intellectual performances that differ for children of different ages. How these expectations differ is in part a function of culture. For example, expectations for children who participate in Western-style schooling are almost certain to be different from those for children who do not participate in such schooling.
 - F** I have suggested that there are three major implicit theories of how intelligence relates to society as a whole (Sternberg, 1997). These might be called Hamiltonian, Jeffersonian, and Jacksonian. These views are not based strictly, but rather, loosely, on the philosophies of Alexander Hamilton, Thomas Jefferson, and Andrew Jackson, three great statesmen in the history of the United States.
 - G** The Hamiltonian view, which is similar to the Platonic view, is that people are born with different levels of intelligence and that those who are less intelligent need the good offices of the more intelligent to keep them in line, whether they are called government officials or, in Plato's term, philosopher-kings. Herrnstein and Murray (1994) seem to have shared this belief when they wrote about the emergence of a cognitive (high-IQ) elite, which eventually would have to take responsibility for the largely irresponsible masses of non-elite (low-IQ) people who cannot take care of themselves. Left to themselves, the unintelligent would create, as they always have created, a kind of chaos.
 - H** The Jeffersonian view is that people should have equal opportunities, but they do not necessarily avail themselves equally of these opportunities and are not necessarily equally rewarded for their accomplishments. People are rewarded for what they accomplish, if given equal opportunity. Low achievers are not rewarded to the same extent as high achievers. In the Jeffersonian view, the goal of education is not to favor or foster an elite, as in the Hamiltonian tradition, but rather to allow children the opportunities to make full use of the skills they have. My own views are similar to these (Sternberg, 1997).
- The Jacksonian view is that all people are equal, not only as human beings but in terms of their competencies – that one person would serve as well as another in government or on a jury or in almost any position of responsibility. In this view of democracy, people are essentially intersubstitutable except for specialized skills, all of which can be learned. In this view, we do not need or want any institutions that might lead to favoring one group over another.
- J** Implicit theories of intelligence and of the relationship of intelligence to society perhaps need to be considered more carefully than they have been because they often serve as underlying presuppositions for explicit theories and even experimental designs that are then taken as scientific contributions. Until scholars are able to discuss their implicit theories and thus their assumptions, they are likely to miss the point of what others are saying when discussing their explicit theories and their data.

Questions 1–3

Reading Passage 1 has ten sections, A–J.

Which section contains the following information?

Write the correct letter, A–J, in boxes 1–3 on your answer sheet.

- 1 information about how non-scientists' assumptions about intelligence influence their behaviour towards others
- 2 a reference to lack of clarity over the definition of intelligence
- 3 the point that a researcher's implicit and explicit theories may be very different

Questions 4–6

Do the following statements agree with the claims of the writer in Reading Passage 1?

In boxes 4–6 on your answer sheet, write

YES if the statement agrees with 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

- 4 Slow language development in children is likely to prove disappointing to their parents.
- 5 People's expectations of what children should gain from education are universal.
- 6 Scholars may discuss theories without fully understanding each other.

Questions 7–13

Look at the following statements (Questions 7–13) and the list of theories below.

Match each statement with the correct theory, **A**, **B**, or **C**.

Write the correct letter, **A**, **B**, or **C**, in boxes 7–13 on your answer sheet.

NB You may use any letter more than once.

- 7 It is desirable for the same possibilities to be open to everyone.
- 8 No section of society should have preferential treatment at the expense of another.
- 9 People should only gain benefits on the basis of what they actually achieve.
- 10 Variation in intelligence begins at birth.
- 11 The more intelligent people should be in positions of power.
- 12 Everyone can develop the same abilities.
- 13 People of low intelligence are likely to lead uncontrolled lives.

List of Theories

- A** Hamiltonian
- B** Jeffersonian
- C** Jacksonian

READING

TEST 40

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.

The secret of staying young

Pheidole dentata, a native ant of the south-eastern U.S., isn't immortal. But scientists have found that it doesn't seem to show any signs of aging. Old worker ants can do everything just as well as the youngsters, and their brains appear just as sharp. 'We get a picture that these ants really don't decline,' says Ysabel Giraldo, who studied the ants for her doctoral thesis at Boston University.

Such age-defying feats are rare in the animal kingdom. Naked mole rats can live for almost 30 years and stay fit for nearly their entire lives. They can still reproduce even when old, and they never get cancer. But the vast majority of animals deteriorate with age just like people do. Like the naked mole rat, ants are social creatures that usually live in highly organised colonies. 'It's this social complexity that makes *P. dentata* useful for studying aging in people,' says Giraldo, now at the California Institute of Technology. Humans are also highly social, a trait that has been connected to healthier aging. By contrast, most animal studies of aging use mice, worms or fruit flies, which all lead much more isolated lives.

In the lab, *P. dentata* worker ants typically live for around 140 days. Giraldo focused on ants at four age ranges: 20 to 22 days, 45 to 47 days, 95 to 97 days and 120 to 122 days. Unlike all previous studies, which only estimated how old the ants were, her work tracked the ants from the time the pupae became adults, so she knew their exact ages. Then she put them through a range of tests.

Giraldo watched how well the ants took care of the young of the colony, recording how often each ant attended to, carried and fed them. She compared how well 20-day-old and 95-day-old ants followed the telltale scent that the insects usually leave to mark a trail to food. She tested how ants responded to light and also measured how active they were by counting how often ants in a small dish walked across a line. And she experimented with how ants react to live prey: a tethered fruit fly. Giraldo expected the older ants to perform poorly in all these tasks. But the elderly insects were all good caretakers and trail-followers—the 95-day-old ants could track the scent even longer than their younger counterparts. They all responded to light well, and the older ants were more active. And when it came to reacting to prey, the older ants attacked the poor fruit fly just as aggressively as the young ones did, flaring their mandibles or pulling at the fly's legs.

Then Giraldo compared the brains of 20-day-old and 95-day-old ants, identifying any cells that were close to death. She saw no major differences with age, nor was there any difference in the location of the dying cells, showing that age didn't seem to affect specific brain functions. Ants and other insects have structures in their brains called mushroom bodies, which are important for

processing information, learning and memory. She also wanted to see if aging affects the density of synaptic complexes within these structures—regions where neurons come together. Again, the answer was no. What was more, the old ants didn't experience any drop in the levels of either serotonin or dopamine—brain chemicals whose decline often coincides with aging. In humans, for example, a decrease in serotonin has been linked to Alzheimer's disease.

'This is the first time anyone has looked at both behavioral and neural changes in these ants so thoroughly,' says Giraldo, who recently published the findings in the *Proceedings of the Royal Society B*. Scientists have looked at some similar aspects in bees, but the results of recent bee studies were mixed—some studies showed age-related declines, which biologists call senescence, and others didn't. 'For now, the study raises more questions than it answers,' Giraldo says, 'including how *P. dentata* stays in such good shape.'

Also, if the ants don't deteriorate with age, why do they die at all? Out in the wild, the ants probably don't live for a full 140 days thanks to predators, disease and just being in an environment that's much harsher than the comforts of the lab. 'The lucky ants that do live into old age may suffer a steep decline just before dying,' Giraldo says, but she can't say for sure because her study wasn't designed to follow an ant's final moments.

'It will be important to extend these findings to other species of social insects,' says Gene E. Robinson, an entomologist at the University of Illinois at Urbana-Champaign. This ant might be unique, or it might represent a broader pattern among other social bugs with possible clues to the science of aging in larger animals. Either way, it seems that for these ants, age really doesn't matter.

Questions 1–8

Complete the notes below.

Choose **ONE WORD ONLY** from the passage for each answer.

Write your answer in boxes 1–8 on your answer sheet.

Ysabel Giraldo's research

Focused on a total of 1 different age groups of ants, analysing

Behaviour:

- how well ants looked after their 2
- their ability to locate 3 using a scent trail
- the effect that 4 had on them
- how 5 they attacked prey

Brains:

- comparison between age and the 6 of dying cells in the brains of ants
- condition of synaptic complexes (areas in which 7 meet) in the brain's 'mushroom bodies'
- level of two 8 in the brain associated with ageing

Questions 9–13

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

In boxes 9–13 on your answer sheet, 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

- 9 *Pheidole dentata* ants are the only known animals which remain active for almost their whole lives.
- 10 Ysabel Giraldo was the first person to study *Pheidole dentata* ants using precise data about the insects' ages.
- 11 The ants in Giraldo's experiments behaved as she had predicted that they would.
- 12 The recent studies of bees used different methods of measuring age-related decline.
- 13 *Pheidole dentata* ants kept in laboratory conditions tend to live longer lives.

TEST 1

Answer key

ACADEMIC READING

Reading Passage 1, Questions 1–13

1–3 IN ANY ORDER

D

E

G

4 clerks / copying clerks

5 library

6 stability

7 pension

8 TRUE

9 FALSE

10 NOT GIVEN

11 FALSE

12 FALSE

13 TRUE

Reading Passage 2, Questions 14–26

14 F

15 A

16 B

17 D

18 I

19 C

20 B

21 D

22 C

23 NOT GIVEN

24 TRUE

25 FALSE

26 FALSE

Reading Passage 3, Questions 27–40

27 YES

28 NOT GIVEN

29 NO

30 NOT GIVEN

31 YES

32 NO

33 C

34 D

35 C

36 B

37 B

38 E

39 D

40 I

If you score ...

0–11	12–29	30–40
you are highly unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 2

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 candlewax
 2 synthetic
 3 chemistry
 4 Novalak
 5 fillers
 6 hexa
 7 raw
 8 pressure
 9 B
 10 C
 11 TRUE
 12 FALSE
 13 FALSE

Reading Passage 2, Questions 14–27

- 14 FALSE
 15 NOT GIVEN
 16 TRUE
 17 FALSE
 18 TRUE
 19 NOT GIVEN
 20 TRUE

- 21 problem solving
 22 temporal lobes
 23 evaluating information
 24 C
 25 A
 26 F
 27 D

Reading Passage 3, Questions 28–40

- 28 Latin
 29 doctors
 30 & 31 **IN EITHER ORDER**
 technical vocabulary
 grammatical resources
 32 Royal Society
 33 German
 34 industrial revolution
 35 NOT GIVEN
 36 FALSE
 37 TRUE
 38 popular
 39 Principia / the Principia / Newton's Principia /
 mathematical treatise
 40 local / more local / local audience

If you score . . .

0–12	13–29	30–40
<p>you are highly unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.</p>	<p>you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.</p>	<p>you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.</p>

TEST 3

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 D
 2 B
 3 C
 4 E
 5 B
 6 D
 7 A
 8 B
 9 D
 10 C
 11 TRUE
 12 FALSE
 13 NOT GIVEN

Reading Passage 2, Questions 14–26

- 14 iv
 15 i
 16 v
 17 viii
 18 YES
 19 NOT GIVEN

- 20 NO
 21 YES
 22 NOT GIVEN
 23 YES
 24 F
 25 A
 26 B

Reading Passage 3, Questions 27–40

- 27 E
 28 B
 29 A
 30 F
 31 B
 32 NOT GIVEN
 33 FALSE
 34 NOT GIVEN
 35 TRUE
 36 FALSE
 37 TRUE
 38 B
 39 A
 40 D

If you score ...

0–11	12–28	29–40
you are highly unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 4

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 iii
 2 v
 3 ii
 4 YES
 5 YES
 6 NO
 7 YES
 8 NO
 9 NOT GIVEN
 10 cheese
 11 tourism/tourist/tour
 12 pottery
 13 jewellery/jewelry

Reading Passage 2, Questions 14–26

- 14 G
 15 A
 16 H
 17 C
 18 F
 19 I
 20 C

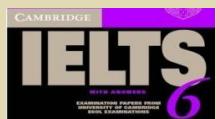
- 21 K
 22 E
 23 L
 24 TRUE
 25 NOT GIVEN
 26 FALSE

Reading Passage 3, Questions 27–40

- 27 TRUE
 28 TRUE
 29 NOT GIVEN
 30 FALSE
 31 FALSE
 32 TRUE
 33 FALSE
 34 temperatures
 35 day-neutral / day-neutral plants
 36 food / food resources / adequate food /
 adequate food resources
 37 insects / fertilization by insects
 38 rainfall / suitable rainfall
 39 sugarcane
 40 classification

If you score ...

0–12	13–28	29–40
you are highly unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.



Answers

TEST1

LISTENING

- 1 (a) keep-fit (studio)
 2 swimming
 3 yoga (classes)
 4 (a) salad bar
 5 500
 6 1
 7 10(am) 4.30(pm)
 8 180
 9 assessment
 10 Kynchley

11-16 B G C A E D
 17 (O)ctober (the) 19th
 18 7
 19 Monday Thursday
 20 18

21 A
 22 in advance
 23 nursery
 24 annual fee
 25 tutor
 26 27 laptops printers /centre
 28 report writting
 29 marketing
 30 Individual

31 feed
 32 metal / leather
 33 restricions
 34 ships
 35 England
 36 built
 37 property
 38-40 C E F

READING

- 1-11 B C B F D A E A B A C
 12 (a) competition model
 13 (by) 20 percent
- 14-17 I F E D
 18-22 T F NG T NG
 23-26 G B C A
- 27-32 1 6 3 7 4 2
 33 farming
 34 35 fish sea mammals
 36 Thule
 37 islands
 38 nomadic
 39 nature
 40 Imported

TEST2

LISTENING

- 1 8
 2 (in/ on) Tamer
 3 green button
 4 library
 5 educational department
 6 castles
 7 old clothes
 8 bottle tops
 9 Undersea Worlds
 10 Silver paper

11 King Street
 12 central
 13 half hours / 30 minutes
 14 refreshments
 15 10.15
 16 Advance
 17 (seat) reservations

18-20 C D G
 22 catalog(ue)s
 23 computer center /centre
 24 checklist
 25 teaching experience
 26 classroom
 27 review

28 schools
 29 ((the) year) 200
 30 end of term

31 research
 32 ABC A A C A
 33 Great Train Robbery
 34 Sound effects
 35 poor sound quality

READING

- 1-5 2 7 4 1 3
 6 FALSE
 7 TRUE
 8 NOT GIVEN
 9 FALSE
 10 TRUE
- 11-13 F D C
 14-15 B I
 16-20 F M J N K
 21-25 G A G E H
 26-30 C B E A C
 31 G
 32-35 T F T F
 36-40 NG T F T NG

TEST3

LISTENING

- 1 Select
 2 27.01.1973
 3 15 Riverside
 4 2 weeks\ 616295
 5 month
 6 engineer
 7 2,000
 8 month
 9 internet

11-15 C A C H F
 16-17 B D
 18 field
 19 footbridge
 20 viewpoint

21 entertainment industry
 22 telephone interviews
 23 30/thirty
 24 male and female
 25 jazz
 26 classical
 27 concerts
 28 department stores
 29 club
 30 opera house

31-34 C A A B
 35 people
 36 water sand
 37 Scotland
 38 outside
 39 local
 40 tops

READING

- 1-5 A I J E G
 6-9 Y NG NG N
 10-13 B C D D
- 14-18 7 3 2 4 1
 19-22 N NG N Y
 23-24 NG Y
- 25-27 B C A
- 28-32 N Y Y NG
 33-37 A B C A B
- 38 glucose
 39 free radicals
 40 preservation

TEST4

LISTENING

- 1 75
 2 check / cheque
 3 15
 4 25
 5 10 minute(s') / min(s')
 6 conference pack
 7 South
 8 library
 9 5
 10 21A

11-14 D A C
 14 tax
 15 security
 16 ground floor
 17 lecture room 311
 18 Safety at Work
 19 Main Hall
 20 team leaders

21 reference
 22 textbooks
 23 secondary
 24 primary
 25 back
 26 overdue books/ ones
 27 7 working days

28-30 C E F

31-34 B A B
 35 1,450
 36 disease
 37 (wealthy) prince
 38 diet
 39 attack humans
 40 leadership

READING

- 1-7 5 6 3 9 1 7 10
 8-13 N Y N Y NG Y
 14-18 B F C J F
 19-24 NG N Y Y N
 25-26 C E
- 27-30 4 6 5 7
 31-34 B D D A
- 35 policy
 36 (explicit) guidelines
 37 (school) curriculum
 38 victims
 39 playful fighting
 40 D

TEST 9

Listening and Reading Answer keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 B
2 A
3 A
4 E
5 D
6 phantom
7 echoes/obstacles
8 depth
9 submarines
10 natural selection
11 radio waves/echoes
12 mathematical theories
13 zoologist

- 20 x
21 NO
22 YES
23 NOT GIVEN
24 NO
25 YES
26 NOT GIVEN

Reading Passage 2, Questions 14–26

- 14 xi
15 vii
16 v
17 i
18 ix
19 ii

- 27 D
28 A
29 B
30 C
31 FALSE
32 FALSE
33 TRUE
34 NOT GIVEN
35 NOT GIVEN
36 TRUE
37 F
38 H
39 K
40 G

Reading Passage 3, Questions 27–40

If you score . . .

0–11	12–27	28–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 10

Listening and Reading Answer keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 YES
- 2 NO
- 3 NOT GIVEN
- 4 YES
- 5 B
- 6 A
- 7 B
- 8 C
- 9 A
- 10 C
- 11 D
- 12 C
- 13 C

Reading Passage 2, Questions 14–26

- 14 E
- 15 B
- 16 C
- 17 B
- 18 YES
- 19 NOT GIVEN
- 20 NO

- 21 YES
- 22 food bills/costs
- 23 (modern) intensive farming
- 24 organic farming
- 25 Greener Food Standard
- 26 **IN EITHER ORDER**
farmers (and)
consumers

Reading Passage 3, Questions 27–40

- 27 ii
- 28 v
- 29 x
- 30 i
- 31 NO
- 32 YES
- 33 NO
- 34 YES
- 35 NOT GIVEN
- 36 D
- 37 I
- 38 G
- 39 E
- 40 B

If you score ...

0–13	14–29	30–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 11

Listening and Reading Answer keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 FALSE
2 TRUE
3 NOT GIVEN
4 TRUE
5 FALSE
6 NOT GIVEN
7 C
8 M
9 F
10 D
11 N
12 O
13 E

- 20 E
21 D
22 C
23 B
24 A
25 A
26 A

Reading Passage 2, Questions 14–26

- 14 iv
15 vii
16 x
17 i
18 vi
19 ii

Reading Passage 3, Questions 27–40

- 27 NOT GIVEN
28 FALSE
29 TRUE
30 FALSE
31 FALSE
32 FALSE
33 TRUE
34 J
35 A
36 E
37 B
38 G
39 D
40 B

If you score ...

0–13	14–30	31–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 12

Listening and Reading Answer keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 TRUE
- 2 FALSE
- 3 NOT GIVEN
- 4 TRUE
- 5 FALSE
- 6 NOT GIVEN
- 7 TRUE
- 8 (wooden) pulleys
- 9 stone
- 10 (accomplished) sailors
- 11 (modern) glider
- 12 flight
- 13 messages

20 FALSE

21 G

22 E

23 B

24 A

25 K

26 F

Reading Passage 2, Questions 14–26

- 14 FALSE
- 15 NOT GIVEN
- 16 TRUE
- 17 NOT GIVEN
- 18 TRUE
- 19 TRUE

33 I

34 B

35 A

36 D

37 A

38 E

39 B

40 C

Reading Passage 3, Questions 27–40

If you score . . .

0–11	12–27	28–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 13

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 D
2 B
3 F
4 E
5 B
6 F
7 D
8 A
9 (ship's) anchor/(an/the) anchor
10 (escape) wheel
11 tooth
12 (long) pendulum
13 second

- 21 FALSE
22 NOT GIVEN
23 TRUE
24 TRUE
25 FALSE
26 TRUE

Reading Passage 2, Questions 14–26

- 14 ii
15 iii
16 v
17 iv
18 viii
19 vii
20 FALSE

- 34&35 **IN EITHER ORDER**
sensory leakage (or)
(outright) fraud
36 computers
37 human involvement
38 meta-analysis
39 lack of consistency
40 big/large enough

If you score ...

0–12	13–29	30–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 14

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- | | | | |
|----|-------------------------|----|------|
| 1 | spinning | 20 | A |
| 2 | (perfectly) unblemished | 21 | H |
| 3 | labour/labor-intensive | 22 | G |
| 4 | thickness | 23 | C |
| 5 | marked | 24 | C |
| 6 | (molten) glass | 25 | A |
| 7 | (molten) tin/metal | 26 | B |
| 8 | rollers | | |
| 9 | TRUE | 27 | viii |
| 10 | NOT GIVEN | 28 | ii |
| 11 | FALSE | 29 | vi |
| 12 | TRUE | 30 | i |
| 13 | TRUE | 31 | iii |
| | | 32 | v |

Reading Passage 2, Questions 14–26

- | | | | |
|-------|-----------------|----|------------|
| 14 | ii | 33 | C |
| 15 | vii | 34 | A |
| 16 | ix | 35 | C |
| 17 | iv | 36 | D |
| 18&19 | IN EITHER ORDER | 37 | clothing |
| | C | 38 | vocabulary |
| | B | 39 | chemicals |
| | | 40 | cultures |

If you score . . .

0–11	12–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 15

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 D
2 A
3 A
4 power companies
5 safely
6 size
7 B
8 C
9 G
10 D
11 NO
12 YES
13 NOT GIVEN

- 20 TRUE
21 FALSE
22 TRUE
23 TRUE
24 NOT GIVEN
25 TRUE
26 NOT GIVEN

Reading Passage 3, Questions 27–40

- 27 ix
28 ii
29 vii
30 i
31 viii
32 iv

Reading Passage 2, Questions 14–26

- 33&34 **IN EITHER ORDER**
physical chemistry (and)
thermodynamics
35 adapt
36 immortality
37 NO
38 YES
39 NOT GIVEN
40 YES

14–18 **IN ANY ORDER**

- B
C
F
H
J
19 TRUE

If you score . . .

0–11	12–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 16

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 vii
2 i
3 v
4 ii
5 viii
6 YES
7 NO
8 NOT GIVEN
9 NO
10 B
11 C
12 A
13 C

- 20 NO
21 YES
22 D
23 H
24 C
25 E
26 B

Reading Passage 2, Questions 14–26

- 14 B
15 A
16 D
17 D
18 NOT GIVEN
19 YES

- 33 B
34 D
35 A
36 D
37 heat
38 leaf litter
39 screen
40 alcohol

Reading Passage 3, Questions 27–40

- 27 TRUE
28 NOT GIVEN
29 TRUE
30 FALSE
31 A
32 C

If you score . . .

0–11	12–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 17

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 FALSE
- 2 NOT GIVEN
- 3 FALSE
- 4 TRUE
- 5 NOT GIVEN
- 6 TRUE
- 7 NOT GIVEN
- 8 (the / only) rich
- 9 commercial (possibilities)
- 10 mauve (was/is)
- 11 (Robert) Pullar
- 12 (in) France
- 13 malaria (is)

Reading Passage 2, Questions 14–26

- 14 iv
- 15 vii
- 16 i
- 17 ii
- 18 several billion years
- 19 radio (waves/signals)
- 20 1000 (stars)
- 21 YES

- 22 YES
- 23 NOT GIVEN
- 24 NO
- 25 NOT GIVEN
- 26 NO

Reading Passage 3, Questions 27–40

- 27 plants
- 28 **IN EITHER ORDER; BOTH REQUIRED FOR ONE MARK**
 - breathing
 - reproduction
- 29 gills
- 30 dolphins
- 31 NOT GIVEN
- 32 FALSE
- 33 TRUE
- 34 3 measurements
- 35 (triangular) graph
- 36 cluster
- 37 amphibious
- 38 half way
- 39 dry-land tortoises
- 40 D

If you score...

0–11	12–27	28–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 18*Listening and Reading Answer Keys***ACADEMIC READING****Reading Passage 1, Questions 1–13**

- 1 H
2 C
3 B
4 I
5 D
6 A
7 two decades
8 crowd (noise)
9 invisible (disabilities/disability)
10 Objective 3
11&12 IN EITHER ORDER
A
C
13 C

Reading Passage 2, Questions 14–26

- 14 F
15 D
16 G
17 E
18 D
19 A
- 20 B
21 C
22 FALSE
23 FALSE
24 TRUE
25 NOT GIVEN
26 TRUE

Reading Passage 3, Questions 27–40

- 27 C
28 B
29 D
30 C
31 B
32 YES
33 YES
34 NOT GIVEN
35 NO
36 NOT GIVEN
37 NO
38 A
39 B
40 C

If you score...

0–11	12–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 19

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 YES
2 NO
3 YES
4 NOT GIVEN
5 YES
6 YES
7 NO
8 YES
9 H
10 F
11 A
12 C
13 B

Reading Passage 2, Questions 14–26

- 14 C
15 E
16 A
17 C
18–22 **IN ANY ORDER**
A
D
E
F
J

- 23 maintenance
24 slow (turning)
25 low pressure
26 cavitation

Reading Passage 3, Questions 27–40

- 27 D
28 F
29 B
30 E
31 A
32 C
33 **IN EITHER ORDER; BOTH REQUIRED FOR ONE MARK**
Jupiter
Saturn
34 Solar System
35 **IN EITHER ORDER; BOTH REQUIRED FOR ONE MARK**
sensors
circuits
36 spares
37 radio dish
38 TRUE
39 TRUE
40 FALSE

If you score...

0–12	13–29	30–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 20

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- | | | | |
|----|--------------------|----|---------------|
| 1 | FALSE | 20 | D |
| 2 | NOT GIVEN | 21 | B |
| 3 | TRUE | 22 | E |
| 4 | FALSE | 23 | C |
| 5 | TRUE | 24 | mirror |
| 6 | NOT GIVEN | 25 | communication |
| 7 | thorium | 26 | ownership |
| 8 | pitchblende | | |
| 9 | radium | | |
| 10 | soldiers | | |
| 11 | illness | | |
| 12 | neutron | | |
| 13 | leukaemia/leukemia | | |

Reading Passage 2, Questions 14–26

- | | | | |
|----|---|----|-----------|
| 14 | G | 27 | ii |
| 15 | C | 28 | vi |
| 16 | G | 29 | i |
| 17 | D | 30 | iii |
| 18 | H | 31 | B |
| 19 | E | 32 | A |
| | | 33 | D |
| | | 34 | D |
| | | 35 | C |
| | | 36 | B |
| | | 37 | FALSE |
| | | 38 | NOT GIVEN |
| | | 39 | FALSE |
| | | 40 | TRUE |

If you score...

0–11	12–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 21

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 FALSE
2 TRUE
3 NOT GIVEN
4 NOT GIVEN
5 TRUE
6 pavilions
7 drought
8 tourists
9 earthquake
10 4/four sides
11 tank
12 verandas/verandahs
13 underwater

- 20 ii
21 iv
22 TRUE
23 FALSE
24 NOT GIVEN
25 NOT GIVEN
26 FALSE

Reading Passage 2, Questions 14–26

- 14 viii
15 iii
16 xi
17 i
18 v
19 x

Reading Passage 3, Questions 27–40

- 27 C
28 A
29 D
30 B
31 G
32 E
33 A
34 F
35 B
36 NO
37 YES
38 NOT GIVEN
39 NOT GIVEN
40 NO

If you score...

0–11	12–27	28–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 22

Listening and Reading Answer Keys

ACADEMIC READING

Reading Passage 1, Questions 1–13

- 1 iv
2 viii
3 vii
4 i
5 vi
6 ix
7 ii
8 NOT GIVEN
9 TRUE
10 FALSE
11 FALSE
12 NOT GIVEN
13 TRUE

Reading Passage 2, Questions 14–26

- 14 A
15 D
16 F
17 D
18 B
19 D
20 E
21 A

22 C

- 23 IN EITHER ORDER; BOTH REQUIRED FOR ONE MARK
books (and)
activities
24 internal regulation / self-regulation
25 emotional awareness
26 spoon-feeding

Reading Passage 3, Questions 27–40

- 27 B
28 H
29 L
30 G
31 D
32 C
33 D
34 A
35 D
36 NOT GIVEN
37 NO
38 YES
39 NOT GIVEN
40 NO

If you score...

0–12	13–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 23**ACADEMIC READING*****Reading Passage 1, Questions 1–13***

- | | | | |
|----|-----------------------------|----|-----------|
| 1 | ii | 20 | upper |
| 2 | i | 21 | dry |
| 3 | v | 22 | north |
| 4 | vii | 23 | FALSE |
| 5 | TRUE | 24 | TRUE |
| 6 | NOT GIVEN | 25 | NOT GIVEN |
| 7 | NOT GIVEN | 26 | B |
| 8 | TRUE | | |
| 9 | NOT GIVEN | | |
| 10 | FALSE | | |
| 11 | source of income / industry | 27 | B |
| 12 | employer | 28 | F |
| 13 | domestic tourism | 29 | I |

Reading Passage 2, Questions 14–26

- | | | | |
|----|------------|----|-----------|
| 14 | C | 33 | A |
| 15 | B | 34 | D |
| 16 | H | 35 | C |
| 17 | B | 36 | NO |
| 18 | E | 37 | YES |
| 19 | sun(light) | 38 | NOT GIVEN |
| | | 39 | YES |
| | | 40 | NOT GIVEN |

Reading Passage 3, Questions 27–40

- | | |
|----|-----------|
| 27 | B |
| 28 | F |
| 29 | I |
| 30 | G |
| 31 | D |
| 32 | C |
| 33 | A |
| 34 | D |
| 35 | C |
| 36 | NO |
| 37 | YES |
| 38 | NOT GIVEN |
| 39 | YES |
| 40 | NOT GIVEN |

If you score...

0–11	12–27	28–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 24**ACADEMIC READING*****Reading Passage 1, Questions 1–13***

- | | | | |
|----|---------------|----|---|
| 1 | spread | 20 | C |
| 2 | 10/ten times | 21 | G |
| 3 | below | 22 | A |
| 4 | fuel | 23 | E |
| 5 | seasons | 24 | C |
| 6 | homes/housing | 25 | G |
| 7 | TRUE | 26 | H |
| 8 | FALSE | | |
| 9 | TRUE | 27 | C |
| 10 | TRUE | 28 | D |
| 11 | NOT GIVEN | 29 | C |
| 12 | FALSE | 30 | B |
| 13 | FALSE | 31 | A |
| | | 32 | F |

Reading Passage 2, Questions 14–26

- | | | | |
|----|------------------------------|----|-----------|
| 14 | transformation/change | 33 | G |
| 15 | young age | 34 | A |
| 16 | optimism | 35 | B |
| 17 | skills/techniques | 36 | D |
| 18 | negative emotions / feelings | 37 | NOT GIVEN |
| 19 | E | 38 | YES |
| | | 39 | NO |
| | | 40 | YES |

Reading Passage 3, Questions 27–40**If you score...**

0–11	12–28	29–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 25

Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- 1 tomatoes
2 urban centres/centers
3 energy
4 fossil fuel
5 artificial
6 (stacked) trays
7 (urban) rooftops
8 NOT GIVEN
9 TRUE
10 FALSE
11 TRUE
12 FALSE
13 TRUE

Reading Passage 2, Questions 14–26

- 14 FALSE
15 NOT GIVEN
16 TRUE
17 NOT GIVEN
18 FALSE
19 TRUE

- 20 gates
21 clamp
22 axle
23 cogs
24 aqueduct
25 wall
26 locks

Reading Passage 3, Questions 27–40

- 27 D
28 B
29 A
30 sunshade
31 iron
32 algae
33 clouds
34 cables
35 snow
36 rivers
37 B
38 D
39 C
40 A

If you score ...

0–11	12–24	25–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 26

Listening and Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- 1 TRUE
2 NOT GIVEN
3 TRUE
4 FALSE
5 C
6 B
7 G
8 A
9 (lifting) frame
10 hydraulic jacks
11 stabbing guides
12 (lifting) cradle
13 air bags

Reading Passage 2, Questions 14–26

- 14 ii
15 ix
16 viii
17 i
18 iv
19 vii

- 20 vi
21 farming
22 canoes
23 birds
24 wood
25&26 IN EITHER ORDER
B
C

Reading Passage 3, Questions 27–40

- 27 C
28 D
29 B
30 A
31 C
32 B
33 H
34 NOT GIVEN
35 YES
36 NO
37 NO
38 YES
39 NOT GIVEN
40 A

If you score ...

0–11	12–24	25–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 27

Listening and Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- 1 tea
2 reel
3 women
4 royalty
5 currency
6 paper
7 wool
8 monks
9 nylon
10 FALSE
11 TRUE
12 FALSE
13 NOT GIVEN

- 20 C
21 A
22 E
23 speed
24 plains
25 bottlenecks
26 corridor/passage way

Reading Passage 2, Questions 14–26

- 14 FALSE
15 TRUE
16 NOT GIVEN
17 TRUE
18 FALSE
19 G

Reading Passage 3, Questions 27–40

- 27
28
29 G
30 C
31 B
32 E
33 A
34 F
35 beginner
36 arithmetic
37 intuitive
38 scientists
39 experiments
40 theorems

If you score ...

0–12	13–25	26–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 28

Listening and Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- 1 FALSE
2 NOT GIVEN
3 NOT GIVEN
4 TRUE
5 A
6 C
7 B
8 A
9 A
10 D
11 B
12 E
13 F

Reading Passage 2, Questions 14–26

- 14 B
15 A
16 B
17 D
18 C
19 D

- 20 TRUE
21 TRUE
22 NOT GIVEN
23 TRUE
24 FALSE
25 C
26 A

Reading Passage 3, Questions 27–40

- 27 vi
28 iv
29 ii
30 vii
31 i
32 v
33 E
34 G
35 B
36 F
37 NO
38 YES
39 NOT GIVEN
40 YES

If you score ...

0–12	13–25	26–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 29

Listening and Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- 1 NOT GIVEN
- 2 FALSE
- 3 FALSE
- 4 TRUE
- 5 TRUE
- 6 taste
- 7 cheaper
- 8 convenient
- 9 image
- 10 sustainable
- 11 recycled
- 12 biodiversity
- 13 desertification

Reading Passage 2, Questions 14–26

- 14 antiques
- 15 triumph
- 16 information
- 17 contact/meetings
- 18 hunt/desire
- 19 aimless/empty

- 20 educational
- 21 Trainspotting
- 22 NOT GIVEN
- 23 FALSE
- 24 NOT GIVEN
- 25 TRUE
- 26 TRUE

Reading Passage 3, Questions 27–40

- 27 vi
- 28 viii
- 29 ii
- 30 iv
- 31 iii
- 32 vii
- 33 fire science
- 34 investigators
- 35 evidence
- 36 prosecution
- 37 NOT GIVEN
- 38 YES
- 39 NO
- 40 NO

If you score ...

0–15	16–25	26–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 30

Listening and Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- | | |
|----------------------------------|--------------|
| 1 A | 20 iii |
| 2 B | 21 TRUE |
| 3 H | 22 FALSE |
| 4 D | 23 FALSE |
| 5 B | 24 NOT GIVEN |
| 6 C | 25 rubber |
| 7 G | 26 farmer |
| 8 B | |
| 9 A | |
| 10&11 IN EITHER ORDER | |
| D | |
| E | |
| 12&13 IN EITHER ORDER | |
| C | |
| D | |

Reading Passage 2, Questions 14–26

- | | |
|---------|--------------|
| 14 iv | 35 NO |
| 15 vi | 36 NOT GIVEN |
| 16 viii | 37 D |
| 17 v | 38 G |
| 18 i | 39 B |
| 19 vii | 40 C |

Reading Passage 3, Questions 27–40

- | |
|---------------------------|
| 27 eye movements |
| 28 language co-activation |
| 29 Stroop Task |
| 30 conflict management |
| 31 cognitive control |
| 32 YES |
| 33 NOT GIVEN |
| 34 NO |
| 35 NO |
| 36 NOT GIVEN |
| 37 D |
| 38 G |
| 39 B |
| 40 C |

If you score ...

0–15	16–25	26–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 31

Listening and Reading Answer Keys

READING

Reading Passage 1, Questions 1–13

- 1 v
2 iii
3 viii
4 i
5 iv
6 vi
7 ii
8 pirates
9 food
10 oil
11 settlers
12 species
13 eggs

Reading Passage 2, Questions 14–26

- 14 D
15 C
16 F
17 G
18 D
19 B
- 30 anticipatory phase
31 food
32 B
33 C
34 A
35 B
36 D
37 F
38 B
39 E
40 C

- 20 vaccinations
21 antibiotics
22 mosquito(e)s
23 factories
24 forests
25 Polio
26 mountain

Reading Passage 3, Questions 27–40

If you score ...

0–14	15–24	25–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 32

Listening and Reading Answer Keys

READING

Reading Passage 1,

Questions 1–13

- 1 obsidian
- 2 spears
- 3 beads
- 4 impurities
- 5 Romans
- 6 lead
- 7 clouding
- 8 taxes
- 9 TRUE
- 10 FALSE
- 11 NOT GIVEN
- 12 TRUE
- 13 FALSE

20 D

21 F

22 A

23 NO

24 NOT GIVEN

25 YES

26 YES

Reading Passage 3,

Questions 27–40

- 27 iv
- 28 ii
- 29 vi
- 30 viii
- 31 vii
- 32 i
- 33 iii
- 34 YES
- 35 NOT GIVEN
- 36 NO
- 37 NO
- 38 information
- 39 financial
- 40 shareholders/investors

Reading Passage 2,

Questions 14–26

- 14 D
- 15 A
- 16 C
- 17 A
- 18 C
- 19 E

35 NOT GIVEN

36 NO

37 NO

38 information

39 financial

40 shareholders/investors

If you score ...

0–14	15–24	25–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 33

Listening and Reading Answer Keys

TEST 1

READING

Reading Passage 1, Questions 1–13

- 1 update
2 environment
3 captain
4 films
5 season
6 accommodation
7 blog
8 FALSE
9 NOT GIVEN
10 FALSE
11 TRUE
12 NOT GIVEN
13 TRUE

- 20 E
21 B
22 D
23 A
24 focus
25 pleasure
26 curiosity

Reading Passage 2, Questions 14–26

- 14 iv
15 vi
16 i
17 v
18 viii
19 iii

- 27 B
28 C
29 C
30 D
31 A
32 D
33 A
34 E
35 C
36 G
37 B
38 YES
39 NOT GIVEN
40 NO

Reading Passage 3, Questions 27–40

If you score ...

0–16	17–25	26–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 34

Listening and Reading Answer Keys

TEST 2

READING

Reading Passage 1, Questions 1–13

- 1 oils
2 friendship
3 funerals
4 wealth
5 indigestion
6 India
7 camels
8 Alexandria
9 Venice
10 TRUE
11 FALSE
12 NOT GIVEN
13 FALSE

- 20 C
21 animals
22 childbirth
23 placebo
24 game
25 strangers
26 names

Reading Passage 2, Questions 14–26

- 14 B
15 F
16 B
17 E
18 A
19 B

- 32 D
33 C
34 B
35 A
36 C
37 A
38 B
39 C
40 D

Reading Passage 3, Questions 27–40

If you score ...

0–15	16–23	24–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 35

Listening and Reading Answer Keys

TEST 3

READING

Reading Passage 1, Questions 1–13

- 1 furniture
2 sugar
3 ropes
4 charcoal
5 bowls
6 hormones
7 cosmetics
8 dynamite
9 FALSE
10 FALSE
11 NOT GIVEN
12 TRUE
13 NOT GIVEN

- 20 bridge hypothesis
21 repertoire
22 (audio-recording) vests
23 vocabulary
24 F
25 A
26 E

Reading Passage 2, Questions 14–26

- 14 B
15 C
16 A
17 B
18 recording devices
19 fathers / dads

Reading Passage 3, Questions 27–40

- 27 C
28 H
29 A
30 B
31 D
32 shells
33 lake
34 rainfall
35 grains
36 pottery
37 B
38 A
39 D
40 A

If you score ...

0–16	17–24	25–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 36

Listening and Reading Answer Keys

TEST 4

READING

Reading Passage 1, Questions 1–13

- 1 FALSE
2 FALSE
3 TRUE
4 TRUE
5 FALSE
6 TRUE
7 NOT GIVEN
8 TRUE
9 wool
10 navigator
11 gale
12 training
13 fire

- 20 A
21 D
22 E
23 C
24 F
25 G
26 F

Reading Passage 2, Questions 14–26

- 14 minerals
15 carbon
16 water
17 agriculture
18 C
19 E

Reading Passage 3, Questions 27–40

- 27 D
28 A
29 B
30 F
31 B
32 G
33 E
34 A
35 YES
36 NOT GIVEN
37 NO
38 NOT GIVEN
39 YES
40 NO

If you score ...

0–16	17–25	26–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 1

TEST 37

READING

*Reading Passage 1,
Questions 1–13*

- 1 creativity
2 rules
3 cities
4&5 IN EITHER ORDER
traffic
crime
6 competition
7 evidence
8 life
9 TRUE
10 TRUE
11 NOT GIVEN
12 FALSE
13 TRUE

*Reading Passage 2,
Questions 14–26*

- 14 E
15 C
16 F
17 C
18 A
19&20 IN EITHER ORDER
B
D

21&22 IN EITHER ORDER

- D
E
23 activists
24 consumerism
25 leaflets
26 police

*Reading Passage 3,
Questions 27–40*

- 27 E
28 D
29 B
30 D
31 C
32 YES
33 NO
34 NO
35 NOT GIVEN
36 restaurants
37 performance
38 turnover
39 goals
40 characteristics

If you score ...

0–17

you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.

18–26

you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.

27–40

you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 2

TEST 38

READING

**Reading Passage 1,
Questions 1–13**

- 1 FALSE
2 TRUE
3 NOT GIVEN
4 FALSE
5 NOT GIVEN
6 TRUE
7 FALSE
8 TRUE
9 merchant
10 equipment
11 gifts
12 canoe
13 mountains

**Reading Passage 2,
Questions 14–26**

- 14 F
15 C
16 E
17 D
18 B
19 design(s)

- 20 pathogens
21 tuberculosis
22 wards
23 communal
24 public
25 miasmas
26 cholera

**Reading Passage 3,
Questions 27–40**

- 27 vi
28 i
29 iii
30 ii
31 ix
32 vii
33 iv
34 viii
35 productive
36 perfectionists
37 dissatisfied
38 TRUE
39 FALSE
40 NOT GIVEN

If you score ...

0–18

you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.

19–27

you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.

28–40

you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 3

TEST 39

READING

**Reading Passage 1,
Questions 1–13**

- 1 B
2 A
3 D
4 NOT GIVEN
5 NO
6 YES
7 B
8 C
9 B
10 A
11 A
12 C
13 A

**Reading Passage 2,
Questions 14–26**

- 14 C
15 H
16 A
17 F
18 I
19 B
20 E

21&22 IN EITHER ORDER

- B
C
23 ecology
24 prey
25 habitats
26 antibiotics

**Reading Passage 3,
Questions 27–40**

- 27 B
28 G
29 F
30 E
31 C
32 NO
33 YES
34 NOT GIVEN
35 NO
36 YES
37 encouraging
38 desire
39 autonomy
40 targeted

If you score ...

0–17

you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.

18–26

you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.

27–40

you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 4

TEST 40

READING

**Reading Passage 1,
Questions 1–13**

- 1 four / 4
2 young
3 food
4 light
5 aggressively
6 location
7 neurons
8 chemicals
9 FALSE
10 TRUE
11 FALSE
12 NOT GIVEN
13 TRUE

**Reading Passage 2,
Questions 14–26**

- 14 B
15 E
16 C
17 A
18 TRUE
19 TRUE
20 NOT GIVEN

- 21 FALSE
22 NOT GIVEN
23&24 *IN EITHER ORDER*

- B
D
25&26 *IN EITHER ORDER*
B
E

**Reading Passage 3,
Questions 27–40**

- 27 FALSE
28 NOT GIVEN
29 FALSE
30 TRUE
31 FALSE
32 TRUE
33 NOT GIVEN
34 large
35 microplastic
36 populations
37 concentrations
38 predators
39 disasters
40 A

If you score ...

0–17

you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.

18–26

you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.

27–40

you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.