IELTS READING (ACADEMIC)

Actual Tests With Answers

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IELTS Reading Test 1

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Health in the Wild

Many animals seem able to treat their illnesses themselves. Humans may have a thing or two to learn from them.

A. For the past decade Dr Engel, a lecturer in environmental sciences at Britain's Open University, has been collating examples of self-medicating behaviour in wild animals. She recently published a book on the subject. In a talk at the Edinburgh Science Festival earlier this month, she explained that the idea that animals can treat themselves has been regarded with some scepticism by her colleagues in the past. But a growing number of animal behaviourists now think that wild animals can and do deal with their own medical needs.

B. One example of self-medication was discovered in 1987. Michael Huffman and Mohamedi Seifu, working in the Mahale Mountains National Park in Tanzania, noticed that local chimpanzees suffering from intestinal worms would dose themselves with the pith of a plant called Veronia. This plant produces poisonous chemicals called terpenes. Its pith contains a strong enough concentration to kill gut parasites, but not so strong as to kill chimps (nor people, for that matter; locals use the pith for the same purpose). Given that the plant is known locally as "goat-killer", however, it seems that not all animals are as

smart as chimps and humans. Some consume it indiscriminately and succumb.

C. Since the Veronia-eating chimps were discovered, more evidence has emerged suggesting that animals often eat things for medical rather than nutritional reasons. Many species, for example, consume dirt a behaviour known as geophagy. Historically, the preferred explanation was that soil supplies minerals such as salt. But geophagy occurs in areas where the earth is not a useful source of minerals, and also in places where minerals can be more easily obtained from certain plants that are known to be rich in them. Clearly, the animals must be getting something else out of eating earth.

D. The current belief is that soil—and particularly the clay in it—helps to detoxify the defensive poisons that some plants produce in an attempt to prevent themselves from being eaten. Evidence for the detoxifying nature of clay came in 1999, from an experiment carried out on macaws by James Gilardi and his colleagues at the University of California, Davis.

Macaws eat seeds containing alkaloids, a group of chemicals that has some notoriously toxic members, such as strychnine. In the wild, the birds are frequently seen perched on eroding riverbanks eating clay. Dr Gilardi fed one group of macaws a mixture of harmless alkaloid and clay, and a second group just the alkaloid. Several hours later, the macaws that had eaten the clay had 60% less alkaloid in their bloodstreams than those that had not, suggesting that the hypothesis is correct.

E. Other observations also support the idea that clay is detoxifying. Towards the tropics, the amount of toxic compounds in plants increases-and so does the amount of earth eaten by herbivores. Elephants lick clay from mud holes all year round, except in September when they are bingeing on fruit which, because it has evolved to be eaten, is not toxic. And the addition of clay to the diets of domestic cattle increases the amount of nutrients

that they can absorb from their food by 10-20%.

F. A third instance of animal self-medication is the use of mechanical scours to get rid of gut parasites, in 1972 Richard Wrangham, a researcher at the Gombe Stream Reserve in Tanzania, noticed that chimpanzees were eating the leaves of a tree called Aspilia. The chimps chose the leaves carefully by testing them in their mouths. Having chosen a leaf, a chimp would fold it into a fan and swallow it. Some of the chimps were noticed wrinkling their noses as they swallowed these leaves, suggesting the experience was unpleasant. Later, undigested leaves were found on the forest floor.

G. Dr Wrangham rightly guessed that the leaves had a medicinal purpose—this was, indeed, one of the earliest interpretations of a behaviour pattern as self-medication. However, he guessed wrong about what the mechanism was. His (and everybody else's) assumption was that Aspilia contained a drug, and this sparked more than two decades of phytochemical research to try to find out what chemical the chimps were after. But by the 1990s, chimps across Africa had been seen swallowing the leaves of 19 different species that seemed to have few suitable chemicals in common. The drug hypothesis was looking more and more dubious.

H. It was Dr Huffman who got to the bottom of the problem. He did so by watching what came out of the chimps, rather than concentrating on what went in. He found that the egested leaves were full of intestinal worms. The factor common to all 19 species of leaves swallowed by the chimps was that they were covered with microscopic hooks. These caught the worms and dragged them from their lodgings.

I. Following that observation, Dr Engel is now particularly excited about how knowledge of the way that animals look after themselves could be used to improve the health of livestock. People might also be able to learn a thing or two, and may, indeed, already have

done so. Geophagy, for example, is a common behaviour in many parts of the world. The medical stalls in African markets frequently sell tablets made of different sorts of clays, appropriate to different medical conditions.

J. Africans brought to the Americas as slaves continued this tradition, which gave their owners one more excuse to affect to despise them. Yet, as Dr Engel points out, Rwandan mountain gorillas eat a type of clay rather similar to kaolinite – the main ingredient of many patent medicines sold over the counter in the West for digestive complaints. Dirt can sometimes be good for you, and to be "as sick as a parrot" may, after all, be a state to be desired.

Questions 1-4

Instructions to follow

- Do the following statements agree with the information given in Reading Passage 1?
  TRUE if the statement is true
  FALSE if the statement is false
  NOT GIVEN if the information is not given in the passage

1. It is for 10 years that Dr Engel has been working on animal self-medication.
2. In order to find plants for medication, animals usually need to walk a long distance.
3. Birds such as Macaw, are seen eating clay because it is a part of their natural diet.
4. According to Dr Engel, it is exciting that research into animal self-medication can be helpful in the invention of new painkillers.

Questions 5-9

Instructions to follow

- Complete the notes below using NO MORE THAN ONE WORD from the passage.

Date	Name	Animal	Food	Mechanism
1987	Michael Huffman and Mohamedi Seifu	Chimpanzee	5 ..... of Veronia	Contained chemicals named 6 ..... which can kill parasites
1999	James Gilardi and his colleagues	Macaw	Seeds (contain 7 .....) and clay	Clay can 8 ..... the poisonous contents in food
1972	Richard Wrangham	Chimpanzee	Leaves with tiny 9 ..... on surface	Such leaves can catch and expel worms from intestines

Questions 10-13

Instructions to follow

- Write your answer, A-H, in boxes 10-13 on your answer sheet.
- Use the words mentioned in the box to answer the questions.

Though often doubted, the self-medicating behaviour of animals has been supported by an increasing amount of evidence. One piece of evidence particularly deals with 10 ..... , a soil-consuming behaviour commonly found across animals species, because the earth, often clay, can neutralize the 11 ..... content of their diet. Such behaviour can also be found among humans in Africa, where people purchase 12 ..... at market stalls as a kind of medication

to their illnesses. Another example of this is found in chimps eating leaves of often 13 ..... taste but with no apparent medicinal value until its unique structure came into light.

A mineral
B plants
C unpleasant
D toxic
E clay tablets
F nutritional
G geophagy
H harmless

Section 2

Instructions to follow

- You should spend 20 minutes on Questions 14-27 which are based on Reading Passage 2

The Nagymaros Dam

When Janos Vargha, a biologist from the Hungarian Academy of Sciences, began a new career as a writer with a small monthly nature magazine called Buvar, it was 9 years after the story behind the fall of the Berlin Wall had started to unfold. During his early research, he went to a beauty spot on the river Danube outside Budapest known as the Danube Bend to interview local officials about plans to build a small park on the site of an ancient Hungarian capital.

One official mentioned that passing this tree-lined curve in the river, a popular tourism spot for Hungarians was monotonous. Also, it was to be submerged by a giant hydroelectric dam in secret by a much-feared state agency known simply as the Water Management.

Vargha investigated and learned that the Nagymaros dam (pronounced “nosh-marosh”) would cause pollution, destroy underground water reserves, dry out wetlands and wreck the unique ecosystem of central Europe’s longest river. Unfortunately, nobody objected. “Of course, I wrote an article. But there was a director of the Water Management on the magazine’s editorial board. The last time, he went to the printers and stopped the presses, the article was never published. I was frustrated and angry, but I was ultimately interested in why they cared to ban my article,” he remembers today.

He found that the Nagymaros dam was part of a joint project with neighbouring Czechoslovakia to produce hydroelectricity, irrigate farms and enhance navigation. They would build two dams and re-engineer the Danube for 200 kilometres where it created the border between them. “The Russians were working together, too. They wanted to take their big ships from the Black Sea right up the Danube to the border with Austria.”

Vargha was soon under vigorous investigation, and some of his articles got past the censors. He gathered supporters for some years, but he was one of only a few people who believed the dam should be stopped. He was hardly surprised when the Water Management refused to debate the project in public. After a public meeting, the bureaucrats had pulled out at the last minute. Vargha knew he had to take the next step. “We decided it wasn’t enough to talk and write, so we set up an organization, the Danube Circle. We announced that we didn’t agree with censorship. We would act as if we were living in a democracy.” he says.

The Danube Circle was illegal and the secret publications it produced turned out to be samizdat leaflets. In an extraordinary act of defiance, it gathered 10,000 signatures for a petition objecting to the dam and made links with environmentalists in the west, inviting them to Budapest for a press conference.

The Hungarian government enforced a news blackout on the dam, but articles about the Danube Circle began to be published and appear in the western media. In 1985, the Circle and Vargha, a public spokesman, won the Right Livelihood award known as the alternative Nobel prize. Officials told Vargha he should not take the prize but he ignored them. The following year when Austrian environmentalists joined a protest in Budapest, they were met with tear gas and batons. Then the Politburo had Vargha taken from his new job as editor of the Hungarian version of *Scientific American.*

The dam became a focus for opposition to the hated regime. Communists tried to hold back the waters in the Danube and resist the will of the people. Vargha says, “Opposing the state directly was still hard.” “Objecting to the dam was less of a hazard, but it was still considered a resistance to the state.”

Under increasing pressure from the anti-dam movement, the Hungarian Communist Party was divided. Vargha says, “Reformists found that the dam was not very popular and economical. It would be cheaper to generate electricity by burning coal or nuclear power.” “But hardliners were standing for Stalinist ideas of large dams which mean symbols of progress.” Environmental issues seemed to be a weak point of east European communism in its final years. During the 1970s under the support of the Young Communist Leagues, a host of environmental groups had been founded. Party officials saw them as a harmless product of youthful idealism created by Boy Scouts and natural history societies.

Green idealism steadily became a focal point for political opposition. In Czechoslovakia, the human rights of Charter 77 took up environmentalism. The green-minded people of both Poland and Estonia participated in the Friends of the Earth International to protest against air pollution. Bulgarian environmentalists built a resistance group, called Ecoglasnost, which held huge rallies in 1989. Big water engineering projects were potent symbols of the old Stalinism.

Questions 14-21

Instructions to follow

- Complete the summary, using the list of words and phrases, A-L, below.

The story of the fall of the Berlin Wall had started to unfold 9 years earlier, when Janos Vargha visited the river Danube out of Budapest to discuss a matter of 14..... with executives. However, unfortunately, the tree-lined curve in the river was 15..... by a colossal dam which caused a lot of fear. He noticed the negative impact of the Nagymaros dam would be 16..... on the ecosystem around the main river. Besides, the dam was engineering public works, generating hydroelectricity, irrigating farmlands and developing sailing trade which was 17..... with a border of Czechoslovakia.

After one public meeting, Vargha 18..... the Danube Circle for showing the autonomy of the people in a democracy. Despite every effort, he who would eventually become the editor of the Hungarian edition was 19..... by the Politburo. Fortunately, with plenty of pressure from the anti-dam movement, east European communism's final symbol was opposed by the 20..... Overall, between political processing and environmentalists have been on a 21..... of views.

A severe

B discharged

C constructing a park of small-scale

D passed

E reformist

F swallowed up

G separated

H favourable

I established

J collision

K combined

L environmentalists

Questions 22-26

Instructions to follow

- Do the following statements reflect the claims of the writer in Reading Passage 2?
- In boxes 22-26 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

22 Janos Vargha predicted that the Nagymaros dam would wreck the natural atmosphere before it was built.

23 The Nagymaros dam's project was managed by the Russians only.

24 The Danube Circle was an unauthorised group for opposing the dam.

25 The Politburo accepted Vargha as editor of the Hungarian edition.

26 The human rights Charter 77 in Czechoslovakia accepted green thoughts.

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 29-40 which are based on Reading Passage 3

Movie of Metropolis

…being the science-fiction film that is steadily becoming a fact

A. When German director Fritz Lang visited the United States in 1924, his first glimpse of the country was a night-time view of the New York skyline from the deck of an ocean liner. This, he later recalled, was the direct inspiration for what is still probably the most innovative and influential science-fiction film ever made – Metropolis.

B. *Metropolis* is a bleak vision of the early twenty-first century that is at once both chilling and exhilarating. This spectacular city of the future is a technological marvel of high-rise buildings connected by elevated railways and airships. It's also a world of extreme inequality and social division. The workers live below ground and exist as machines working in an endless routine of mind-numbing 10-hour shifts while the city's elite lead lives of luxury high above. Presiding over them all is the Master of Metropolis, John Fredersen, whose sole satisfaction seems to lie in the exercise of power.

C. Lang's graphic depiction of the future is conceived in almost totally abstract terms. The function of the individual machines is never defined. Instead, this mass of dials, levers and gauges symbolically stands for all machines and all industry, with the workers as slave-live extensions of the equipment they have to operate. Lang emphasizes this idea in the famous shift-change sequence at the start of the movie when the workers walk in zombie-

like geometric ranks, all dressed in the same dark overalls and all exhibiting the same bowed head and dead-eyed stare. An extraordinary fantasy sequence sees one machine transformed into a huge open-jawed statue which then literally swallows them up.

D. On one level the machines and the exploited workers simply provide the wealth and services which allow the elite to live their lives of leisure, but on a more profound level, the purpose of all this demented industry is to serve itself. Power, control and the continuance of the system from one 10-hour shift to the next is all that counts. The city consumes people and their labour and in the process becomes a perverse parody of a living being.

E. It is enlightening, I think, to relate the film to the modern global economy in which multinational corporations now routinely close their factories in one continent so that they can take advantage of cheap labour in another. Like the industry in Metropolis, these corporations' goals of increased efficiency and profits have little to do with the welfare of the majority of their employees or that of the population at large. Instead, their aims are to sustain the momentum of their own growth and to increase the monetary rewards to a tiny elite – their executives and shareholders.

Fredersen himself is the essence of the big company boss: Rupert Murdoch would probably feel perfectly at home in his huge skyscraper office with its panoramic view of the city below. And it is important that there is never any mention of government in Metropolis – the whole concept is by implication obsolete. The only people who have power are the supreme industrialist, Fredersen, and his magician/scientist cohort Rotwang.

F. So far so good: when the images are allowed to speak for themselves the film is impeccable both in its symbolism and in its cynicism. The problem with Metropolis is its

sentimental story-line, which sees Freder, Fredersen's son, instantly falling in love with the visionary Maria. Maria leads an underground pseudo-religious movement and preaches that the workers should not rebel but should await the arrival of a 'Mediator' between the 'Head' (capital) and the 'Hands' (labour). That mediator is the 'Heart' – love, as embodied, finally, by Freder's love of Maria and his father's love of him.

G. Lang wrote the screenplay in collaboration with his then-wife Thea von Harbou. In 1933 he fled from the Nazis (and continued a very successful career in Hollywood). She stayed in Germany and continued to make films under the Hitler regime. There is a constant tension within the film between the too-tidy platitudes of von Harbou's script and the uncompromisingly caustic vigour of Lang's imagery.

H. To my mind, both in *Metropolis* and in the real world, it's not so much that the 'Head' and 'Hands' require a 'Heart' to mediate between them but that the 'Hands' need to develop their own 'Head', their own political consciousness, and act accordingly – through the ballot box, through buying power and through a sceptical resistance to the materialistic fantasies of the Fredersens.

I. All the same, *Metropolis* is probably more accurate now as a representation of industrial and social relations than it has been at any time since its original release. And Fredersen is certainly still the most potent movie symbol of the handful of elusive corporate figureheads who increasingly treat the world as a Metropolis-like global village.

Questions 27-30

Instructions to follow

- Do the following statements agree with the claims of the writer in Reading Passage 3? In boxes 27-30 on your answer sheet, write
  YES if the statement is true
  NO if the statement is false
  NOT GIVEN if the information is not given in the passage

27 The inspiration of the movie-*Metropolis*-comes from the director's visit in the USA in 1924.

28 The Master of Metropolis, John Fredersen, is portrayed from an industrialist that the director met in the US.

29 The start of the movie exhibits the workers working in full energy.

30 The director and his wife got divorced because his wife decided to stay in Germany.

Questions 31-36

Instructions to follow

- Write NO MORE THAN TWO WORDS form the text for each answer.

The director depicts a world of inequality and 31 ..... In the future, the mindless masses of workers living underground are treated as 32 ..... And the master of them is 33 ....., who is in charge of the whole city. The writer claims that the director, Fritz Lang, presents the movie in an 34 ..... term, where the 35 ..... of the individual machines is not defined. Besides the writer compares the film to the modern global economy in which multinational corporations concern more about the growing 36 ..... and money.

Questions 37-40

Instructions to follow

- Choose the correct letter, A, B, C or D.

37 The first sentence in **paragraph B** indicates

A the author's fear about technology
B the inspiration of the director
C the contradictory feelings towards future
D the city elite's well management of the workers

38 Why the function of the individual machines is not defined?

A Because Lang sticks to theme in a symbolic way.
B Because workers are more important to exploit.
C Because the fantasy sequence is difficult to take.
D Because the focus of the movie is not about machines.

39 The writer's purpose in paragraph five is to

A emphasize the multinational corporations' profit-oriented goal.
B compare the movie with the reality in the modern global economy
C exploit the difference between fantasy and reality
D enlighten the undeveloped industry

40 What is the writer's opinion about the movie?

A The movie's story-line is excellent.

B The movie has a poor implication in symbolism.

C The movie is perfect in all aspects.

D The movie is good but could be better.

IELTS Reading Test 2

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-14 which are based on Reading Passage 1

A. That 'Monday morning feeling' could be a crushing pain in the chest which leaves you sweating and gasping for breath. Recent research from Germany and Italy shows that heart attacks are more common on Monday morning and doctors blame the stress of returning to work after the weekend break.

B. The risk of having a heart attack on any given day should be one in seven, but a six-year study coordinated by researchers at the Free University of Berlin of more than 2,600 Germans revealed that the average person had a 20 per cent higher chance of having a heart attack on a Monday than on any other day.

C. Working Germans are particularly vulnerable, with a 33 per cent higher risk at the beginning of the working week. Non-workers, by comparison, appear to be no more at risk on a Monday than any other day.

D. A study of 11,000 Italians identified 8 am on a Monday morning as the most stressful time for the heart, and both studies showed that Sunday is the least stressful day, with fewer heart attacks in both countries.

E. The findings could lead to a better understanding of what triggers heart attacks, according to Dr. Stefan Willich of the Free University. 'We know a lot about long-term risk factors

such as smoking and cholesterol, but we don't know what actually triggers heart attacks, so we can't make specific recommendations about how to prevent them,' he said.

F. Monday mornings have a double helping of stress for the working body as it makes a rapid transition from sleep to activity, and from the relaxing weekend to the pressures of work. 'When people get up, their blood pressure and heart rate go up and there are hormonal changes in their bodies,' Willich explained. 'All these things can have an adverse effect in the blood system and increase the risk of a clot in the arteries which will cause a heart attack.'

'When people return to work after a weekend off, the pace of their life changes. They have a higher workload, more stress, more anger and more physical activity,' said Willich. 'We need to know how these events cause changes in the body before we can understand if they cause heart attacks.'

G. But although it is tempting to believe that returning to work increases the risk of a heart attack, both Willich and the Italian researchers admit that it is only a partial answer. Both studies showed that the over-65s are also vulnerable on a Monday morning even though most no longer work. The reason for this is not clear, but the Italian team at the Luigi Saddo Hospital in Milan speculate that social interactions—the thought of facing another week and all its pressures—may play a part.

H. What is clear, however, is that the Monday morning peak seems to be consistent from northern Germany to southern Italy in spite of the differences in diet and lifestyle.

I. Willich is reluctant at this stage to make specific recommendations, but he suggests that anyone who suffers from heart disease should take it easy on Monday mornings and leave potentially stressful meetings until midweek. 'People should try to create a pleasant

working environment,' he added. 'Maybe this risk applies only to those who see work as a burden, and people who enjoy their work are not so much at risk. We need to find out more.'

Questions 1 – 4

Instructions to follow

- Read the following statements 1-4. According to the reading passage, write
  TRUE if the statement is true
  FALSE if the statement is false
  NOT GIVEN if there is insufficient evidence

***Example**: It was once believed that there was an equal chance of suffering a heart attack on any day of the week.*

Answer: True.

1. Unemployed Germans have a higher risk of heart attack than employed Germans.
2. Unemployed Italians have a lower risk of heart attack than unemployed Germans.
3. German's risk heart attack because of their high consumption of fatty food.
4. Cholesterol and smoking cause heart attacks.

Questions 5-13

Instructions to follow

- Read passage 1 and choose the best heading for each paragraph A-I from the list of headings below.
- Write the appropriate number i-ix, in the spaces numbered 5-13 on the answer sheet. Use each heading ONCE only.

5 Heading for Paragraph A

6 Heading for Paragraph B

7 Heading for Paragraph C

8 Heading for Paragraph D

9 Heading for Paragraph E

10 Heading for Paragraph F

11 Heading for Paragraph G

12 Heading for Paragraph H

13 Heading for Paragraph I

List of headings

i. Exact cause of heart attacks

ii. The safest day

iii. Breathless, sweaty and crushed

iv. Reducing heart attack hazard

v. High-risk Monday

vi. Mondays: riskier than food and way of life

vii. Jobless but safer

viii. Elderly also at risk

ix. Bodily adaptations

Question 14

Instructions to follow

- Reading passage 1 is untitled. Select the best title for the entire passage from the choices A-D below.

A Reduce your chance of having a heart attack

B Warning: Mondays are bad for your heart

C The overweight and smokers risk heart attacks

D Happy and healthy

Section 2

Instructions to follow

- You should spend 20 minutes on Questions 15-27 which are based on Reading Passage 2

Growing up in New Zealand

It has long been known that the first one thousand days of life are the most critical in ensuring a person's healthy future; precisely what happens during this period to any individual has been less well documented. To allocate resources appropriately, public health and education policies need to be based upon quantifiable data, so the New Zealand Ministry of Social Development began a longitudinal study of these early days, with the view to extending it for two decades. Born between March 2009 and May 20I0, the 6,846 babies recruited came from a densely populated area of New Zealand, and it is hoped they will be followed until they reach the age of 21.

By 2014, fur reports, collectively known as *Growing Up in New Zealand* (*GUiNZ*), had been published, showing New Zealand to be a complex, changing country, with the participants and their families' being markedly different from those of previous generations.

Of the 6,846 babies, the majority were identified as European New Zealanders, but one quarter was Maori (indigenous New Zealanders), 20% were Pacific (originating in islands in the Pacific), and one in six were Asian. Almost 50% of the children had more than one ethnicity.

The first three reports of *GUiNZ* are descriptive, portraying the cohort before birth, at nine months and at two years of age. Already, the first report, *before we are born*, has

made history as it contains interviews with the children's mothers *and* fathers. The fourth report, which is more analytical, explores the definition of vulnerability for children in their first one thousand days.

Before we are born, published in 2010, describes the hopes, dreams, and realities that prospective parents have. It shows that the average age of both parents having a child was 30, and around two-thirds of parents were in legally binding relationships. However, one-third of the children were born to either a mother or a father who did not grow up in New Zealand – a significant difference from previous longitudinal studies in which a vast majority of parents were New Zealanders born and bred.

Around 60% of the births in the cohort were planned, and most families hoped to have two or three children. During pregnancy, some women changed their behaviour, with regard to smoking, alcohol, and exercise, but many did not. Such information will be useful for public health campaigns.

Now we are born is the second report. 52% of its babies were male and 48% female, with nearly a quarter delivered by caesarean section. The World Health Organisation and New Zealand guidelines recommend babies be breastfed exclusively for six months, but the median age for this in the *GUiNZ* cohort was four months since almost one-third of mothers had returned to full-time work. By nine months, the babies were all eating solid food. While 54% of them were living in accommodation their families owned, their parents had almost all experienced a drop in income, sometimes a steep one, mostly due to mothers' not working.

Over 90% of the babies were immunised, and almost all were in very good health. Of the mothers, however, 11% had experienced post-natal depression – an alarming statistic, perhaps, but, once again, useful for mental health campaigns. Many of the babies were

put in childcare while their mothers worked or studied, and the providers varied by ethnicity: children who were Maori or Pacific were more likely to be looked after by grandparents; European New Zealanders tended to be sent to daycare.

Now we are two, the third report, provides more insights into the children's development – physically, emotionally, behaviourally, and cognitively. Major changes in home environments are documented, like the socio-economic situation, and childcare arrangements. Information was collected both from direct observations of the children and from parental interviews. Once again, a high proportion of New Zealand two-year-old were in very good health.

Two-thirds of the children knew their gender, and used their own name or expressed independence in some way. The most common first word was a variation on 'Mum', and the most common favourite first food was a banana. Bilingual or multi-lingual children were in a large minority of 40%. Digital exposure was high: one in seven two-year-old had used a laptop or a children's computer, and 80% watched TV or DVDs daily; by contrast, 66% had books read to them each day.

The fourth report evaluates twelve environmental risk factors that increase the likelihood of poor developmental outcomes for children and draws on experiences in Western Europe, where the specific factors were collated. This, however, was the first time for their use in a New Zealand context. The factors include: being born to an adolescent mother; having one or both parents on income-tested benefits; and, living in cramped conditions.

In addition to descriptive ones, future reports will focus on children who move in and out of vulnerability to see how these transitions affect their later life.

To date, *GUiNZ* has been highly successful with only a very small dropout rate for participants – even those living abroad, predominantly in Australia, have continued to provide information. The portrait *GUiNZ* paints of a country and its people are indeed revealing.

Questions 15-20

Instructions to follow

- Do the following statements agree with the information given in passage 2?
  TRUE if the statement agrees with the information
  FALSE if the statement contradicts the information
  NOT GIVEN if there is no information on this

15 Findings from studies like *GUiNZ* will inform public policy.

16 Exactly 6,846 babies formed the *GUiNZ* cohort.

17 *GUiNZ* will probably end when the children reach ten.

18 Eventually, there will be 21 reports in *GUiNZ*.

19 So far, *GUiNZ* has shown New Zealanders today to be rather similar to those of 25 years ago.

20 Parents who took part in *GUiNZ* believe New Zealand is a good place to raise children.

Questions 21-27

Instructions to follow

- Write the correct letter A, B, C or D, in boxes 21-27 on your answer sheet.
- Classify the following things that relate to

A Report 1.

B Report 2.

C Report 3.

D Report 4.

21 This is unique because it contains interviews with both parents.

A ○ B ○ C ○ D ○

22 This looks at how children might be at risk.

A ○ B ○ C ○ D ○

23 This suggests having a child may lead to financial hardship.

A ○ B ○ C ○ D ○

24 Information for this came from direct observations of children.

A ○ B ○ C ○ D ○

25 This shows many children use electronic devices.

A ○ B ○ C ○ D ○

26 This was modelled on criteria used in Western Europe.

A ○ B ○ C ○ D ○

27 This suggests having a teenage mother could negatively affect a child.

A ○ B ○ C ○ D ○

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 28-40 which are based on Reading Passage 3

IS AID HURTING AFRICA?

Despite its population of more than one billion and its rich land and natural resources, the continent of Africa remains poor. The combined economies of its 54 states equal that of one European country: the Netherlands.

It is difficult to speak of Africa as a unit as its states differ from each other in culture, climate, size, and political system. Since mid-20th-century independence, many African states have pursued different economic policies. Yet, none of them has overcome poverty. Why might this be?

One theory says Africa is unlucky. Sparsely populated with diverse language and culture, it contains numerous landlocked countries, and it is far from international markets. Dambisa Moyo, a Zambian-born economist, has another theory. In her 2009 book, Dead Aid, she proposes that international aid is largely to blame for African poverty because it has encouraged dependence and corruption, and has diverted talented people from the business. One of her statistics is that from 1970-98, when aid to Africa was highest, poverty rose from eleven to 66%. If aid were cut, she believes Africans would utilise their resources more creatively.

When a state lacks the capacity to care for its people, international non-governmental organisations (NGOs), like Oxfam or the Red Cross, assume this role. While NGOs

distribute food or medical supplies, Moyo argues they reduce the ability of the state to provide. Furthermore, during this process, those in government and the military siphon off aid goods and money themselves. Transparency International, an organisation that surveys corruption, rates the majority of African states poorly.

Moyo provides another example. Maybe a Hollywood star donates American-made mosquito nets. Certainly, this benefits malaria-prone areas, but it also draws business away from local African traders who supply nets. More consultation is needed between do-gooder foreigners and local communities.

Moyo also suggests African nations increase their wealth by investment in bonds, or by increased co-operation with China.

The presidents of Rwanda and Senegal are strong supporters of Moyo, but critics say her theories are simplistic. The international aid community is not responsible for geography, nor has it anything to do with the military takeover, corruption, or legislation that hampers trade. Africans have had half a century of self-government and economic control, yet, as the population of the continent doubled, its GDP has risen only 60%. In the same period, Malaysia and Vietnam threw off colonialism and surged ahead economically by investing in education, health, and infrastructure; by lowering taxes on international trade; and, by being fortunate to be surrounded by other successful nations.

The economist Paul Collier has speculated that if aid were cut, African governments would not find alternative sources of income, nor would they reduce corruption. Another economist, Jeffrey Sachs, has calculated that twice the amount of aid currently given is needed to prevent suffering on a grand scale.

In *Dead Aid*, Moyo presents her case through a fictitious country called 'Dongo', but

nowhere does she provide examples of real aid organisations causing actual problems. Her approach may be entertaining, but it is hardly academic.

Other scholars point out that Africa is dominated by tribal societies with military-government elites. Joining the army, rather than doing business, was the easiest route to personal wealth and power. Unsurprisingly, military takeovers have occurred in almost every African country. In the 1960s and 70s, European colonials were replaced by African 'colonials' – African generals and their families. Meantime, the very small, educated bourgeoisie has moved abroad. All over Africa, strongmen leaders have ruled for a long time, or one unstable military regime has succeeded another. As a result, business, separate from the military government is rare, and international investment limited.

Post-secondary education rates are low in Africa. Communications and transportation remain basic although mobile phones are having an impact. The distances farmers must travel to market are vast due to poor roads. High cross-border taxes and long bureaucratic delays are par for the course. African rural populations exceed those elsewhere in the world. Without a decent infrastructure or an educated urbanised workforce, a business cannot prosper.

Recent World Bank statistics show that in southern Africa, the number of companies using the internet for business is 20% as opposed to 40% in South America or 80% in the US. There are 37 days each year without water whereas there is less than one day in Europe. The average cost of sending one container to the US is $7600, but only $3900 from East Asia or the Pacific. All these problems are the result of poor state planning.

Great ethnic and linguistic diversity within African countries has led to tribal favouritism. Governments are often controlled by one tribe or allied tribes; civil war is usually tribal. It is estimated each civil war costs a country roughly $64 billion. Southern Africa had 34 such

conflicts from 1940-2000 while South Asia, the next-affected region, had only 24 in the same period. To this day, a number of bloody conflicts continue.

Other opponents of Moyo add that her focus on market investment and more business with China is shortsighted. The 2008 financial crisis meant that countries with market investments lost money. Secondly, China's real intentions in Africa are unknown, but everyone can see China is buying up African farmland and securing cheap oil supplies.

All over Africa, there are untapped resources, but distance, diversity, and low population density contribute to poverty. Where there is no TV, infrequent electricity, and bad roads, there still seems to be money for automatic weapons just the right size for 12-year-old boys to use. Blaming the West for assisting with aid fails to address the issues of continuous conflict, ineffective government, and little infrastructure. Nor does it prevent terrible suffering.

Has aid caused problems for Africa, or is Africa's strife of its own making or due to geography? Whatever you think, Dambisa Moyo's book has generated lively discussion, which is fruitful for Africa.

Questions 28-38

Instructions to follow

- Choose ONE WORD OR A NUMBER from the passage for each answer.

AFRICA'S PROBLEMS

Africa has a lot of people, 28 ..... , and natural resources.

↓

Yet it is still 29 ..... .

↙ ↘

Moyo's theory	Other scholars' theories
International 30 ..... is largely responsible. States now depend on it, and are corrupt as a result. Talented people have been drawn away from 31 ..... by working for NGOs. If foreigners help, they ought to involve local 32 ..... more. African states should buy into bond markets, and have a closer relationship with 33	This is because Africa is unfortunate due to its 34 ..... . It is a long way from international markets. It is also culturally and politically diverse. However, corrupt military-government elites control most of the economy. Many African business-people have left. There is little international 35 ..... . 36 ..... , communications, and transportation remain under-developed. Numerous civil wars, mostly tribal, have been costly. From 1940-2000, there were 37 ..... of these.

↙ ↘

Without international aid:

Moyo's theory	Other scholars' theories
Africa would use its resources more creatively.	Africans would experience enormous 38 ..... .

Questions 39-40

Instructions to follow

- Choose TWO letters: A-E.
- Which of the statements does the writer of passage 3 support?

A Moyo is right that international aid is causing Africa's problems.

B Moyo has ignored the role of geography in Africa.

C Convincing evidence is lacking in Moyo's theory.

D Most political leaders in Africa agree with Moyo's analysis.

E Useful discussion about Africa has resulted from Moyo's book.

IELTS Reading Test 3

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Bovids

A. The family of mammals called bovids belongs to the Artiodactyl class, which also includes giraffes. Bovids are a highly diverse group consisting of 137 species, some of which are man's most important domestic animals.

B. Bovids are well represented in most parts of Eurasia and Southeast Asian islands, but they are by far the most numerous and diverse in the latter Some species of bovid are solitary, but others live in large groups with complex social structures. Although bovids have adapted to a wide range of habitats, from arctic tundra to deep tropical forest, the majority of species favour open grassland, scrub or desert. This diversity of habitat is also matched by great diversity in size and form: at one extreme is the royal antelope of West Africa, which stands a mere 25 cm at the shoulder; at the other, the massively built bison of North America and Europe, growing to a shoulder height of 2.2m.

C. Despite differences in size and appearance, bovids are united by the possession of certain common features. All species are ruminants, which means that they retain undigested food in their stomachs, and regurgitate it as necessary. Bovids are almost exclusively herbivorous: plant-eating "incisors: front teeth herbivorous".

D. Typically, their teeth are highly modified for browsing and grazing: grass or foliage is cropped with the upper lip and lower incisors** (the upper incisors are usually absent), and then ground down by the cheek teeth. As well as having cloven, or split, hooves, the males of ail bovid species and the females of most carry horns. Bovid horns have bony cores covered in a sheath of horny material that is constantly renewed from within; they are unbranched and never shed. They vary in shape and size: the relatively simple horns of a large Indian buffalo may measure around 4 m from tip to tip along the outer curve, while the various gazelles have horns with a variety of elegant curves.

E. Five groups, or sub-families, may be distinguished: Bovinae, Antelope, Caprinae, Cephalophinae and Antilocapridae. The sub-family Bovinae comprises most of the larger bovids, including the African bongo, and nilgae, eland, bison and cattle. Unlike most other bovids they are all non-territorial. The ancestors of the various species of domestic cattle banteng, gaur, yak and water buffalo are generally rare and endangered in the wild, while the auroch (the ancestor of the domestic cattle of Europe) is extinct.

F. The term ‘antelope is not a very precise zoological name – it is used to loosely describe a number of bovids that have followed different lines of development. Antelopes are typically long-legged, fast-running species, often with long horns that may be laid along the back when the animal is in full flight. There are two main sub-groups of antelope: Hippotraginae, which includes the oryx and the addax, and Antilopinae, which generally contains slighter and more graceful animals such as gazelle and the springbok. Antelopes are mainly grassland species, but many have adapted to flooded grasslands: pukus, waterbucks and lechwes are all good at swimming, usually feeding in deep water, while the sitatunga has long, splayed hooves that enable it to walk freely on swampy ground.

G. The sub-family Caprinae includes the sheep and the goat, together with various relatives such as the goral and the tahr. Most are woolly or have long hair. Several species, such as wild goats, chamois and ibex, are agile cliff – and mountain-dwellers. Tolerance of extreme conditions is most marked in this group: Barbary and bighorn sheep have adapted to arid deserts, while Rocky Mountain sheep survive high up in mountains and musk oxen in artic tundra.

H. The duiker of Africa belongs to the Cephalophinae sub-family. It is generally small and solitary, often living in thick forest. Although mainly feeding on grass and leaves, some duikers – unlike most other bovids – are believed to eat insects and feed on dead animal carcasses, and even to kill small animals.

I. The pronghorn is the sole survivor of a New World sub-family of herbivorous ruminants, the Antilocapridae in North America. It is similar in appearance and habits to the Old-World antelope. Although greatly reduced in numbers since the arrival of Europeans, and the subsequent enclosure of grasslands, the pronghorn is still found in considerable numbers throughout North America, from Washington State to Mexico. When alarmed by the approach of wolves or other predators, hairs on the pronghorn's rump stand erect, so showing and emphasizing the white patch there. At this signal, the whole herd gallops off at speed of over 60 km per hour.

Questions 1-3

Instructions to follow

- Choose the correct letter A, B, C or D.
- Write your answers in boxes 1-3 on your answer sheet.

1 In which region is the biggest range of bovids to be found?

A Africa
B Eurasia
C North America
D South-east Asia

2 Most bovids have a preference for living in

A isolation
B small groups
C tropical forest
D wide open spaces

3 Which of the following features do all bovids have in common?

A Their horns are shot
B They have upper incisors
C They store food in the body
D Their hooves are undivided

Questions 4-8

Instructions to follow

- Look at the following characteristics and list of sub-families below.
- Match each characteristic with the correct sub-family A, B, C or D.
- Write the correct letter, A, B, C or D in boxes 4-8 on your answer sheet.
- NB You may use any letter more than once

4 can endure very harsh environments

A ○ B ○ C ○ D ○

5 includes the ox and the cow

A ○ B ○ C ○ D ○

6 may supplement its diet with meat

A ○ B ○ C ○ D ○

7 move at a high speed

A ○ B ○ C ○ D ○

8 does not defend a particular area of land

A ○ B ○ C ○ D ○

List of sub-families

A Antelope

B Bovinae

C Caprinae

D Cephalophinae

Questions 9-13

Instructions to follow

- Answer the questions below.
- Choose NO MORE THAN THREE WORDS from the passage for each answer.
- Write your answer in boxes 9-13 on your answer sheet.

9 What is the smallest species of Bovid called?

10 Which species of Bovinae has now died out?

11 What facilitates the movement of the sitatunga over wetland?

12 What sort of terrain do barbary sheep live in?

13 What is the only living member of the Antilocapridae sub-family?

Section 2

Instructions to follow

- You should spend 20 minutes on Questions 14-26 which are based on Reading Passage 2

Western Immigration of Canada

A. By the mid-1870s Canada wanted an immigrant population of agricultural settlers established in the West. No urban centres existed on the prairies in the 1870s, and rural settlement was the focus of the federal government's attention. The western rural settlement was desired, as it would provide homesteads for the sons and daughters of eastern farmers, as eastern agricultural landfilled to capacity. As well, eastern farmers and politicians viewed western Canada, with its broad expanses of unpopulated land, as a prime location for expanding Canada's agricultural output, especially in terms of wheat production to serve the markets of eastern Canada.

B. To bolster Canada's population and agricultural output, the federal government took steps to secure western land. The Dominion of Canada purchased Rupert's Land from the Hudson's Bay Company in 1870. In 1872, the federal government enacted the Dominion Lands Act. This act enabled settlers to acquire 160 acres of free land, as long as settlers remained on their land for a period of three years, made certain minor improvements to the land, and paid a $10.00 registration fee.

The Canadian government also created a Mounted Police Force in 1873. The Mounties ***journeyed west*** to secure the area for future settlers. By 1876 the NWMP had established themselves in the West. The major posts included Swan River, Fort Saskatchewan, Fort Calgary, Fort Walsh and Fort Macleod. All of these initiatives attracted

a number of eastern-Canadian settlers, as well as European and American immigrants, to Canada's West, and particularly to the area of Manitoba.

C. The surest way to protect Canadian territory, and to achieve the secondary goal for joining British Columbia to the rest of the country, was to import large numbers of Eastern Canadian and British settlers. Settling the West also made imperative the building of a transcontinental railway. The railway would work to create an east-west economy, in which western Canada would feed the growing urban industrial population of the east, and in return become a market for eastern Canadian manufactured goods.

D. Winnipeg became the metropolis of the West during this period. Winnipeg's growth before 1900 was the result of a combination of land speculation, growth of housing starts, and the federal government's solution in 1881 of Winnipeg as a major stop along the CPR. This decision culminated in a land boom between 1881 and 1883 which resulted in the transformation of hamlets like Portage la Prairie and Brandon into towns, and a large increase in Manitoba's population. Soon, Winnipeg stood at the junction of three transcontinental railway lines which employed thousands in rail yards. Winnipeg also became the major processor of agricultural products for the surrounding hinterland.

E. The majority of settlers to Winnipeg, and the surrounding countryside, during this early period, were primarily Protestant English-speaking settlers from Ontario and the British Isles. These settlers established Winnipeg upon a British-Ontarian ethos which came to dominate the society's social, political, and economic spirit. This British-Ontarian ethnic homogeneity, however, did not last very long. Increasing numbers of foreign immigrants, especially from Austria-Hungary and Ukraine soon added a new ethnic element to the recent British, the older First Nation Métis, and Selkirk's settler population base.

Settling the West with (in particular) Eastern Canadians and British immigrant offered the

advantage of safeguarding the 49th parallel from the threat of American take-over, had not the Minnesota legislature passed a resolution which provided for the annexation of the Red River district. The Red River in 1870 was the most important settlement on the Canadian prairies. It contained 11,963 inhabitants of whom 9,700 were Métis and First Nations. But neighbouring Minnesota already had a population of over 100,000.

F. Not all of the settlers who came to western Canada in the 1880s, however, desired to remain there. In the 1870s and 1880s, economic depression kept the value of Canada's staple exports low, which discouraged many from permanent settlement in the West. Countries including Brazil, Argentina, Australia, New Zealand and the United States competed with Canada for immigrants. Many immigrants and thousands of Canadians chose to settle in the accessible and attractive American frontier. Canada before 1891 has been called "a huge demographic railway station" where thousands of men, women, and children were constantly going and coming, and where the number of departures invariably exceeded that of arrivals."

G. By 1891 Eastern Canada had its share of both large urban centres and problems associated with city life. While the booming economic centres of Toronto and Montreal were complete with electricity and telephones in the cities' wealthiest areas by the turn of the century, slum conditions characterised the poorest areas like the district known as 'the Ward' in Toronto. Chickens and pigs ran through the streets; privy buckets spilled onto backyards and lanes creating cesspools in urban slums. These same social reformers believed that rural living, in stark contrast to urban, would lead to a healthy, moral, and charitable way of life.

Social reformers praised the ability of fresh air, hard work, and open spaces for 'Canadianizing' immigrants. Agricultural pursuits were seen as especially fitting for attaining this 'moral' and family-oriented way of life, in opposition to the single male-

dominated atmosphere of the cities. Certainly, agriculture played an important part in the Canadian economy in 1891. One-third of the workforce worked on farms.

H. The Canadian government presented Canada's attractions to potential overseas migrants in several ways. The government offered free or cheap land to potential agriculturists. As well, the government established agents and/or agencies for the purpose of attracting emigrants overseas. Assisted passage schemes, bonuses and commissions to agents and settlers and pamphlets also attracted some immigrants to Canada. The most influential form of attracting others to Canada, however, remained the letters home written by emigrants already in Canada.

Letters from trusted friends and family members. Letters home often contained exaggerations of the 'wonder of the new world.' Migrant workers and settlers already in Canada did not want to disappoint, or worry, their family and friends at home. Embellished tales of good fortune and happiness often succeeded in encouraging others to come.

Questions 14-20

Instructions to follow

- The Reading Passage has eight paragraphs A-H.
- Choose the correct heading for paragraphs A-H from the list below.

List of Headings

i. Not all would stay in Canada forever

ii. Government's safeguard in the West

iii. Eastern Canada is full

iv. Built-up to the new infrastructure

v. An exclusive British domination in Ontario established ever since

vi. Ethnics and language make-up

vii. Pursuing a pure life

viii. Police recruited from mid-class families

ix. Demand of western immigration

x. Early major urban development of the West

xi. Attracting urban environment

xii. Advertising of Western Canada

14 Paragraph **B**

15 Paragraph **C**

16 Paragraph **D**

17 Paragraph **E**

18 Paragraph **F**

19 Paragraph **G**

20 Paragraph **H**

Questions 21-26

Instructions to follow

- Write NO MORE THAN TWO WORDS from the Reading Passage for each answer.

With the saturation of Eastern Canada, the Western rural area would supply 21..... for the descendants of easterners. Politicians also declared that Western got potential to increase 22..... of Canada according to 23..... crop that consumed in the East. The federal government started to prepare and made it happen. First, the government bought land from a private 24..... , and legally offered a certain area to people who stayed for a qualifying period of time. Then, mounted 25..... was found to secure the land. However, the best way to protect citizens was to build a 26..... to transport the migrants and goods between the West and the East.

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 27-40 which are based on Reading Passage 3

The significant role of mother tongue language in education

A. One consequence of population mobility is an increasing diversity within schools. To illustrate, in the city of Toronto in Canada, 58% of kindergarten pupils come from homes where English is not language of communication. Schools in Europe and North America have experienced this diversity for years, but educational policies and practices vary widely between countries and even within countries. Some political parties and groups search for ways to solve the problem of diverse communities and their integration in schools and society. They see few positive consequences for the host society and worry that diversity threaten the identity of the host society. Consequently, they promote unfortunate educational policies that will make the "problem" disappear. If students retain their culture and language, they are viewed as less capable of identifying with the mainstream culture and learning the mainstream language of the society.

B. The challenge for educators and policy-makers is to shape the evolution of national identity in such a way that the rights of all citizens (including school children) are respected, and the cultural, linguistic, and economic resources of the nation are maximized. To waste the resources of the nation by discouraging children from developing their mother tongues is quite simply unintelligent from the point of view of national self-interest. A first step in Providing an appropriate education for culturally and linguistically diverse children is to examine what the existing research says about the role

of children's mother tongues in their educational development.

C. In fact, the research is very clear. When children continue to develop their abilities in two or more languages throughout their primary school, they gain a deeper understanding of language and how to use it effectively. They have more practice in processing language, especially when they develop literacy in both. More than 150 research studies conducted during the past 35 years strongly support what Goethe, the famous eighteenth-century German philosopher, once said: that the person who knows only one language does not truly know that language. Research suggests that bilingual children may also develop more flexibility in their thinking as a result of processing information through two different languages.

D. The level of development of children's mother tongue is a strong predictor of their second language development. Children who come to school with a solid foundation in their mother tongue develop stronger literacy abilities in the school language. When parents and other caregivers (e.g. grandparents) are able to spend time with their children and tell stories or discuss issues with them in a way that develops their mother tongue, children come to school well- prepared to learn the school language and succeed educationally. Children's knowledge and skills transfer across languages from the mother tongue to the school language. Transfer across languages can be two-way: both languages nurture each other when the educational environment permits children access to both languages.

E. Some educators and parents are suspicious of mother tongue-based teaching programs because they worry that they take time away from the majority language. For example, in a bilingual program where 50% of the time is spent teaching through children's home language and 50% through the majority language, surely children's won't progress as far in the letter? One of the most strongly established findings of educational research,

however, is that well implemented bilingual programs can promote literacy and subject-matter knowledge in a minority language without any negative effects on children's development in the majority language. Within Europe, the Foyer program in Belgium, which develops children's speaking and literacy abilities in three languages (their mother tongue, Dutch and French), most clearly illustrates the benefits of bilingual and trilingual education (see Cummins, 2000).

F. It is easy to understand how this happens. When children are learning through a minority language, they are learning concepts and intellectual skills too. Pupils who know how to tell the time in their mother tongue understand the concept of telling time. In order to tell time in the majority language they do not need to re-learn the concept. Similarly, at more advanced stages, there is transfer across languages in other skills such as knowing how to distinguish the main idea from the supporting details of a written passage or story, and distinguishing fact from opinion, Studies of secondary school pupils are providing interesting findings in this area, and it would be worth extending this research.

G. Many people marvel at how quickly bilingual children seem to "pick up" conversational skills in the majority language at school (although it takes much longer for them to catch up to native speakers in academic language skills). However, educators are often much less aware of how quickly children can lose their ability to use their mother tongue, even in the home context. The extent and rapidity of language loss will vary according to the concentration of families from a particular linguistic group in the neighborhood. Where the mother tongue is used extensively in the community, then language loss among young children will be less. However, where language communities are not concentrated in particular neighborhoods, children can lose their ability to communicate in their mother tongue within 2-3 years of starting school. They may retain receptive skills in the language but they will use the majority language in speaking with their peers and siblings and in

responding to their parents. By the time children become adolescents, the linguistic division between parents and children has become an emotional chasm. Pupils frequently become alienated from the cultures of both home and school with predictable results.

Questions 27-30

Instructions to follow

- Choose the correct letter A, B, C or D.
- Write the correct letter in boxes 27-30 on your answer sheet.

27 What point is the writer making in the second paragraph?

A Some present studies on children's mother tongues are misleading

B A culturally rich education programme benefits some children more than others.

C bilingual children can make a valuable contribution to the wealth of a country

D The law on mother tongue use at school should be strengthened.

28 Why does the writer refer to something that Goethe said?

A to lend weight to his argument

B to contradict some research

C to introduce a new concept

D to update current thinking

29 The writer believes that when young children have a firm grasp of their mother tongue

A ○ they can teach older family members what they learn at school
B ○ they go on to do much better throughout their time at school
C ○ they can read stories about their cultural background
D ○ they develop stronger relationships with their family than with their peers.

30 Why are some people suspicious about mother tongue-based teaching programmes?

A ○ They worry that children will be slow to learn to read in either language
B ○ They think that children will confuse words in the two languages.
C ○ They believe that the programmes will make children less interested in their lessons
D ○ They fear that the programmes will use up valuable time in the school day.

Questions 31-35

Instructions to follow

- Complete the following summary of the paragraphs of Reading Passage.
- Write your answers in boxes 31-35 on your answer sheet.
- Use the words mentioned in the box to complete the summary.

Bilingual children

It was often recorded that Bilingual Children acquire the 31 ..... to converse in the majority language remarkably quickly. The fact that the mother tongue can disappear at a similar 32 ..... is less well understood. This phenomenon depends to a certain extent, on the proposition of people with the same linguistic background that have settled in a particular 33 .....; If this is limited, children are likely to lose the active use of their mother tongue. And thus no longer employ it even with 34 ..... although they may still understand it. It follows that teenager children

in these circumstances experience a sense of 35..... in relation to all aspects of their lives.

A Teachers	B school	C dislocation	D Rate	E time
F family	G communication	H type	I ability	J Area

Questions 36-40

Instructions to follow

- Do the following statements agrees with the views of the writer in Reading passage 3?
  YES if the statement agrees with the views of the writer
  NO if the statement contradicts with the views of the writer
  NOT GIVEN if it is impossible to say what the writer thinks about this

36 Less than half the children who attend kindergarten in Toronto have English as their mother tongue.

37 Research proves that learning the host country language at school can have an adverse effect on a child's mother tongue.

38 the foyer Program is to be accepted by the French education system.

39 Bilingual children are taught to tell the time earlier than monolingual children.

40 Bilingual children can eventually apply reading comprehension strategies acquired in one language when reading in the other.

IELTS Reading Test 4

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Building Material

Bricks are one of the oldest known building materials dating back to 7000 BCE. The oldest found were sun-dried mud bricks in southern Turkey and these would have been standard in those days. Although sun-dried mud bricks worked reasonably well, especially in moderate climates, fired bricks were found to be more resistant to harsh weather conditions and so fired bricks are much more reliable for use in permanent buildings. Fired bricks are also useful in hotter climates, as they can absorb any heat generated throughout the day and then release it at night.

The Romans also distinguished between the bricks they used that were dried by the sun and air and the bricks that were fired in a kiln. The Romans were real brick connoisseurs. They preferred to make their bricks in the spring and hold on to their bricks for two years, before they were used or sold. They only used clay that was whitish or red for their bricks. The Romans passed on their skills around their sphere of influence and were especially successful at using their mobile kilns to introduce kiln-fired bricks to the whole of the Roman Empire.

During the twelfth century, bricks were introduced to northern Germany from northern

Italy. This created the 'brick Gothic period,' which was a reduced style of Gothic architecture previously very common in northern Europe. The buildings around this time were mainly built from fired red clay bricks. The brick Gothic period can be categorised by the lack of figural architectural sculptures that had previously been carved in stone, as the Gothic figures were impossible to create out of bulky bricks at that time.

Bricks suffered a setback during the Renaissance and Baroque periods, with exposed brick walls becoming unpopular and brickwork being generally covered by plaster. Only during the mid-eighteenth century did visible brick walls again regain some popularity.

Bricks today are more commonly used in the construction of buildings than any other material, except wood. Brick architecture is dominant within its field and a great industry has developed and invested in the manufacture of many different types of bricks of all shapes and colours. With modern machinery, earth moving equipment, powerful electric motors and modern tunnel kilns, making bricks has become much more productive and efficient. Bricks can be made from a variety of materials, the most common being clay, but they can also be made of calcium silicate and concrete.

Good quality bricks have major advantages over stone as they are reliable, weather resistant and can tolerate acids, pollution and fire. They are also much cheaper than cut stonework. Bricks can be made to any specification in colour, size and shape, which makes them easier to build with than stone. On the other hand, there are some bricks that are more porous and therefore more susceptible to damage from dampness when exposed to water. For best results in any construction work, the correct brick must be chosen in accordance with the job specifications.

Today, bricks are mainly manufactured in factories, usually employing one of three

principal methods – the soft mud process, the stiff mud process and the dry clay process. In the past, bricks were largely manufactured by hand, and there are still artisanal companies that specialise in this product. The process involves putting the clay, water and additives into a large pit, where it is all mixed together by a tempering wheel, often still moved by horse power. Once the mixture is of the correct consistency, the clay is removed and pressed into moulds by hand. To prevent the brick from sticking to the mould, the brick is coated in either sand or water, though coating a brick with sand gives an overall better finish to it. Once shaped, the bricks are laid outside to dry by air and sun for three to four days. If these bricks left outside for the drying process are exposed to a shower, the water can leave indentations on the brick, which, although not affecting the strength of the brick, is considered very undesirable. After drying, the bricks are then transferred to the kiln for firing and this creates the finished product. Bricks are now more generally made by manufacturing processes using machinery. This is a large-scale effort and produces bricks that have been fired in patent kilns.

Today's bricks are also specially designed to be efficient at insulation. If their composition is correct and their laying accurate, a good brick wall around a house can save the occupants a significant amount of money. This is primarily achieved today through cavity wall insulation. Insulating bricks are built in two separate leaves, as they are called in the trade. The gap between the inner and outer leaves of brickwork depends on the type of insulation used, but there should be enough space for a gap of twenty millimeters between the insulating material in the cavity and the two leaves on either side. The air in these gaps is an efficient insulator by itself. Cavity walls have also replaced solid walls, because they are more resistant to rain penetration. Because two leaves are necessary, a strong brick manufacturing industry is essential, so that enough good quality insulating bricks are plentifully available.

Questions 1-5

Instructions to follow

- Do the following statements agree with the information given in the text?
- 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 Fired brick are not efficient in countries with hot weather, as they absorb too much heat.

2 Roman brick production was determined by which season it was.

3 The bricks that led to the brick Gothic period in northern Germany were popular with house builders.

4 Buildings showing brickwork were generally not liked during the Renaissance.

5 Some types of bricks can soak up too much water due to their absorbent qualities.

Questions 6-11

Instructions to follow

- Complete the flow chart below.
- Write NO MORE THAN TWO WORDS from the text for each answer.
- Write your answers in boxes 6-11 on your answer sheet.

Making Hand-made Bricks

Combine the 6 ....., water and other ingredients with a 7 ..... to the desired consistency.

↓

Using the hand, fill 8 ..... with the mixture-coat with 9 ..... (provides a better finish) or water to prevent stickiness.

↓

Dry in the sun; try to avoid rain, which will cause marks in the bricks – this will not affect the bricks' 10 .....

↓

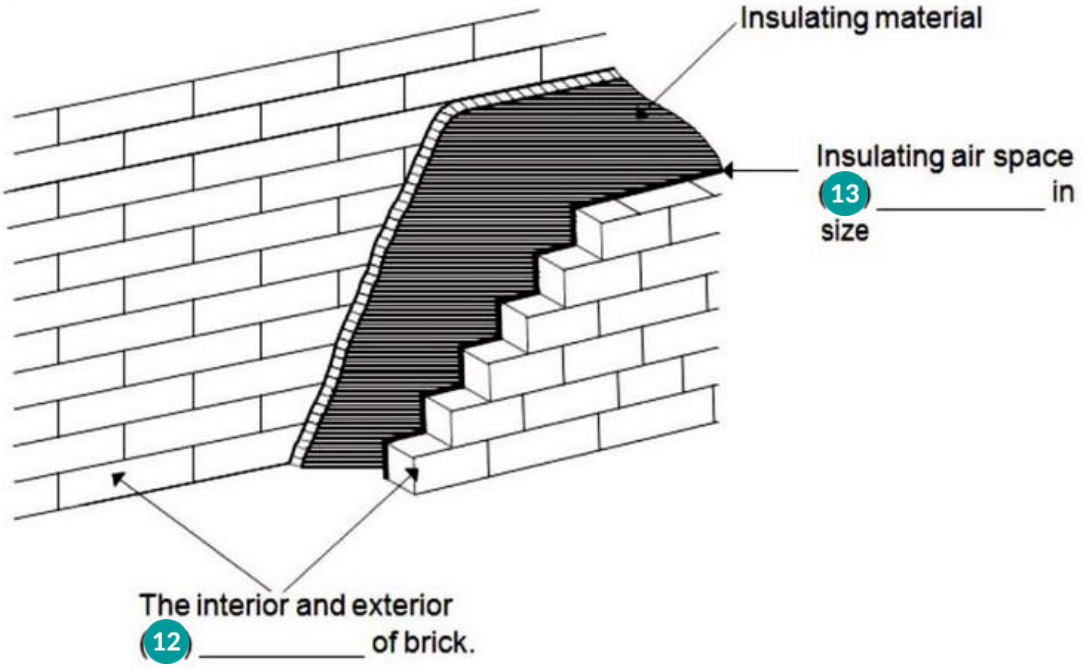
Bricks are then transferred to the 11 ..... for firing

Questions 12 and 13

Instructions to follow

- Label the diagram below.
- Write NO MORE THAN TWO WORDS AND/OR A NUMBER from the text for each answer.
- Write your answers in boxes 12 and 13 on your answer sheet.

Cavity Wall Insulation



Section 2

Instructions to follow

- You should spend 20 minutes on Questions 14-26 which are based on Reading Passage 2

Arctic Survivors

The Arctic is an area located at the northernmost part of the Earth and includes the Arctic Ocean, Canada, Russia, Greenland, the United States, Norway, Sweden, Finland and Iceland. It consists of an ice-covered ocean, surrounded by treeless permafrost. The area can be defined as north of the Arctic Circle, the approximate limit of the midnight sun and the polar night. The average temperature in July, which is the warmest month, is below 10°C. Colder summer temperatures cause the size, abundance, productivity and variety of plants to decrease. Trees cannot grow in the Arctic, but in its warmest parts, shrubs are common and can reach 2 metres in height.

A thick blanket of snow lies several feet deep all over the ground. The sun appears for only a few brief hours each day before sinking below the horizon as blackness cloaks the land. As it vanishes, a bitter chill tightens its grip. The Arctic is not a place to be in the throes of winter; it is hostile to almost all animal life. Amphibians would freeze solid here. Nor can reptiles withstand the extreme cold. And yet there are animals here, animals that exhibit a remarkable tolerance of the most inhospitable conditions on the planet.

Less than half a metre beneath the surface of the snow, a furry white creature, no bigger than a hamster, scurries along a tunnel. It is a collared lemming. It and other members of its family have excavated a complex home within the snowfield, but it costs the lemmings

a great deal to survive here. They pay by using some of their precious and scarce food supply to generate heat within their bodies so that their biochemical processes can continue to function efficiently.

But in order to keep fuel costs to a minimum, they must conserve as much energy as they can. A thick insulating coat of fine fur covering all but the lemmings' eyes achieve this. Fur is the life preserver of the Arctic.

Only one class of animals have fur – mammals. Fur consists of dense layers of hair follicles. Hair is composed of a substance called keratin. It grows constantly, its roots embedded in the skin and surrounded by nerve fibres so that its owner can sense any movement of the hair. It is this precious fur that gives land mammals the edge necessary to survive the harsh Arctic winter. Without it, wolves, lemmings and arctic foxes alike would surely perish.

The insulation provided by fur comes not from the fur itself, but largely from the layer of air trapped within the fur. Air is an extremely effective insulator, which is the same as saying it is a poor conductor, i.e., it has a very limited ability to conduct heat away from a warm surface. Studies reveal that if a layer of air of about five centimetres could be held in place close to the skin, it would provide the same insulation as does the impressively dense winter coat of the arctic fox.

If an arctic fox or wolf is exposed to an air temperature of about minus ten degrees, the temperature near the tips of the fur will match the air temperature, but at the surface of the skin, it will be closer to thirty degrees. This represents a temperature difference of around forty degrees. Such effective insulation is only made possible by the layer of trapped air contained within the long, fine and densely packed fur.

But Arctic mammals have more in their arsenal than just fur to protect them from the elements. Unlike amphibians, reptiles and other classes of animals, they are endotherms, meaning they can generate their own body heat. This is another of the defining characteristics of mammals. It is the mammalian ability to generate heat internally that enables the arctic fox or the lemming to remain warm and active in very cold conditions.

Generating heat internally, Arctic mammals can regulate their body temperature independent of external conditions; this is known as thermoregulation. When Arctic mammals are cold, they raise their metabolic rate and produce more heat. When they are warm, the reverse happens. Together, thermoregulation and fur make Arctic mammals perfectly equipped to face the toughest conditions the Arctic can throw at them.

Questions 14-20

Instructions to follow

- Choose the correct answer A, B, C or D.

14 Animals that live in the Arctic

A ○ can withstand extremely difficult living conditions.

B ○ often freeze solid during winter.

C ○ are mainly reptilian.

D ○ are mostly frogs or toads.

15 Where do lemmings live?

A ○ on the surface of the snow
B ○ in tunnels built under the frozen ocean
C ○ in wide tunnels deep underground
D ○ about 50cm below the surface of the snow.

16 Fur is

A ○ thick layers of hair.
B ○ common to all animal classes.
C ○ unhelpful to Arctic animals.
D ○ the life preserver only for small Arctic mammals.

17 Why is trapped air a good insulator?

A ○ It is a good conductor of heat.
B ○ Air helps us to breathe.
C ○ It is a bad conductor of heat.
D ○ It absorbs heat and cold very well.

18 If the temperature at the tip of the fur of an arctic fox is minus ten degrees, the temperature at the surface of the skin will be closer to

A ○ forty degrees.
B ○ ten degrees.
C ○ thirty degrees.
D ○ thirty-five degrees.

19 What is an endotherm?

A ○ an animal that can generate heat inside its body

B ○ an animal that cannot generate heat inside its body

C ○ an animal that never gets cold

D ○ an animal that has special insulation

20 Thermoregulation and fur help Arctic mammals

A ○ cope with hot temperatures.

B ○ protect themselves from the elements.

C ○ regulate the temperature of their surroundings.

D ○ create a layer of trapped air within their fur.

Questions 21-27

Instructions to follow

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

The Arctic winter is something few animals can survive, but there are a select few that show an amazing 21..... of the severe winter conditions. These animals have to use their food resources to keep their body temperature high so that the biochemical 22..... inside them continue to run. One thing that helps them keep their bodies warm is their .....23... which consists of thick layers of hair that provide insulation for their bodies; it is their life 24.....

The layer of 25..... air that they also have provides very effective insulation from cold because it is not a good 26..... of heat. In the case of an Arctic mammal getting cold, it deals with it by increasing its 27..... rate to generate more heat.

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 28-40 which are based on Reading Passage 3

High-tech Switzerland

For a nation with a history of making sophisticated clocks, it is not surprising that Switzerland is the best place for precision and high-tech research. The country is so proud of two Federal Institutes of Technology, like the CERN of particle physics laboratory and a core of IBM research facilities. Also, there are two big pharmaceutical companies called Roche and Novartis. Also, who can forget Switzerland's world-famous chocolate industry?

British citizens are able to work in Switzerland vise-free and the country offers salaries of up to £72,000 per year for highly-skilled experienced researchers with the option of skiing in the lunch break. It is easy to know why Switzerland appeals to so many. In what fields are these great opportunities available?

Computing Clout

IBM is one of the global companies that has established a research hub in Switzerland. The Ruschlikon lab located in the south of Zurich draws researchers from around the world, with 80% of them coming from abroad.

This lab is a leader in digital storage technology and semiconductor and optical electronics for online networks. Projects to build a top-class nanotechnology research centre in the place are going on and will be completed by 2014.

Irene Holenweger Koeb, a manager in IBM human resources, says that the lab is looking for a wide range of disciplines including physics, chemistry and mathematics. Also, it is a thriving bioscience group working on the application of nanotechnology to life sciences and other areas. Most of the positions only accept applicants with a Ph.D. but the lab also hires approximately 100 applicants with Bachelors and Masters degrees each year.

Paul Hurley, a researcher in IBM's systems software group, in enjoying the flexible atmosphere of his work. There is a relaxed atmosphere in the office at IBM and meetings often take place over lunch or a coffee break.

As a lot of employees are not Swiss nationals, the company offers a lot of support and also has a policy of paying relocation expenses. Koeb says that it is important to gradually ease employees into their new workplace.

German lessons which are paid for by IBM are offered to new employees working in Zurich. The standard of German is different to German spoken in Zurich. Whilst Hurley has attended the classes, he says a little bit more practice is needed to notice the "Swiss-isms."

Raising the Chocolate Bar

Switzerland is known for chocolate. Jose Rubio of Lindt's human resources department says "Our company has 44 nationalities and 18 languages."

Scientists are able to find jobs within quality management, research and development and in the factory working conditions. The work of R&D is to help improve new recipes and products as well as designing and building new machines for making them. You are able to hone your skills in a well-managed company and have the pleasant task of testing the products to make sure they meet the company's high standards.

Rubio says that a foreign staff must speak at least one of the official Swiss languages. Most of the positions need a good level of German, as it is vital when working with Swiss coworkers in the production lines.

The ETH in German-speaking Zurich has a sister institution, which is the Federal Institute of Technology in French speaking Lausanne (EPFL). With over 250 research groups and 10,000 students and faculties, it is focused on interdisciplinary scientific research. The institute's technology transfer programmes ensure that practical tools and methods make it out of the lab and into the industry.

Questions 28-30

Instructions to follow

- Choose the appropriate letters A-D.

28 Ruschlikon lab located in Zurich attracts

A ○ almost 80 per cent of research staff from overseas.
B ○ 80 per cent of research staff domestically.
C ○ at least 80 per cent of engineers from abroad.
D ○ 80 per cent of staff with a PhD from overseas.

29 The lab has a plan to complete in 2014

A ○ founding a top-class Ruschlikon lab.
B ○ making a world-famous chocolate industry.
C ○ founding the best nanotechnology research centre.
D ○ researching digital storage marketing.

30 According to information in the text, the main purpose of the writer is

A ○ to survey various high-tech research in Switzerland.

B ○ to introduce attractive research centres in Switzerland.

C ○ to recruit a variety of human resources in Switzerland.

D ○ to understand the world-famous chocolate in Switzerland.

Questions 31-35

Instructions to follow

- Choose NO MORE THAN TWO WORDS from Reading Passage 3 for each answer.

Raising the chocolate bar

Switzerland is known for 31 ....., attracts scientists in quality management, research and development. Those who are working in R&D aid to improve new versions of recipes, products and design and build 32 ..... Foreign staff should fluently speak one of 33 ..... official tongues in the least. Especially, a number of workplaces need to have an advanced level of 34 ..... With over 250 research groups and 10,000 students and faculties, it emphasizes 35 ..... Scientific research.

Questions 36-40

Instructions to follow

- Do the following statements reflect the claims of the writer in Reading Passage 3?
  TRUE if the statement agrees with the information
  FALSE if the statement contradicts the information
  NOT GIVEN if there is no information on this

36 Switzerland has a reputation for the history of making precise clockwork.

37 Coffee in Switzerland is world-famous.

38 Four-fifths of the staff at the Ruschlikon in Zurich are from overseas.

39 The Ruschlikon lab is a trailblazer in only the field of semiconductors in digital storage technology.

40 Most study fields need a high level of English.

IELTS Reading Test 5

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

A song on the brain

Some songs just won't leave you alone. But this may give us clues about how our brain works

A. Everyone knows the situation where you can't get a song out of your head. You hear a pop song on the radio – or even just read the song's title and it haunts you for hours, playing over and over in your mind until you're heartily sick of it. The condition now even has a medical name 'song-in-head syndrome'.

B. But why does the mind annoy us like this? No one knows for sure, but it's probably because the brain is better at holding onto information than it is at knowing what information is important. Roger Chaffin, a psychologist at the University of Connecticut says, 'It's a manifestation of an aspect of memory which is normally an asset to us, but in this instance, it can be a nuisance.'

C. This eager acquisitiveness of the brain may have helped our ancestors remember important information in the past. Today, students use it to learn new material, and musicians rely on it to memorize complicated pieces. But when this useful function goes awry it can get you stuck on a tune. Unfortunately, superficial, repetitive pop tunes are, by their very nature, more likely to stick than something more inventive.

D. The annoying playback probably originates in the auditory cortex. Located at the front of the brain, this region handles both listening and playback of music and other sounds. Neuroscientist Robert Zatorre of McGill University in Montreal proved this some years ago when he asked volunteers to replay the theme from the TV show Dallas in their heads. Brain imaging studies showed that this activated the same region of the auditory cortex as when the people actually heard the song.

E. Not every stored musical memory emerges into consciousness, however. The frontal lobe of the brain gets to decide which thoughts become conscious and which ones are simply stored away. But it can become fatigued or depressed, which is when people most commonly suffer from song-in-head syndrome and other intrusive thoughts, says Susan Ball, a clinical psychologist at Indiana University School of Medicine in Indianapolis. And once the unwanted song surfaces, it's hard to stuff it back down into the subconscious. 'The more you try to suppress a thought, the more you get it,' says Ball. 'We call this the pink elephant phenomenon. Tell the brain not to think about pink elephants, and it's guaranteed to do so,' she says.

F. For those not severely afflicted, simply avoiding certain kinds of music can help. 'I know certain pieces that are kind of "sticky" to me, so I will not play them in the early morning for fear that they will run around in my head all day,' says Steven Brown, who trained as a classical pianist but is now a neuroscientist at the University of Texas Health Science Center at San Antonio. He says he always has a song in his head and, even more annoying, his mind never seems to make it all the way through. 'It tends to involve short fragments between, say, 5 or 15 seconds. They seem to get looped, for hours sometimes,' he says.

G. Brown's experience of repeated musical loops may represent a phenomenon called

'chunking', in which people remember musical phrases as a single unit of memory, says Caroline Palmer, a psychologist at Ohio State University in Columbus. Most listeners have little choice about what chunks they remember. Particular chunks may be especially 'sticky' if you hear them often or if they follow certain predictable patterns, such as the chord progression of rock 'n' roll music.

Palmer's research shows that the more a piece of music conforms to these patterns, the easier it is to remember. That's why you're more likely to be haunted by the tunes of pop music than by those of a classical composer such as J. S. Bach.

H. But this ability can be used for good as well as annoyance. Teachers can tap into memory reinforcement by setting their lessons to music. For example, in one experiment students who heard a history text set as the lyrics to a catchy song remembered the words better than those who simply read them, says Sandra Calvert, a psychologist at Georgetown University in Washington DC.

I. This sort of memory enhancement may even explain the origin of music. Before the written word could be used to record history, people memorized it in songs, says Leon James, a psychologist at the University of Hawaii. And music may have had an even more important role. 'All music has a message.' he says. 'This message functions to unite society and to standardise the thought processes of people in society.'

Questions 1-3

Instructions to follow

- Choose the correct answer A, B, C or D.
- Write your answers in boxes 1-3 on your answer sheet.

1 The writer says that song-in-head syndrome' may occur because the brain

A confuses two different types of memory.
B cannot decide what information it needs to retain.
C has been damaged by harmful input.
D cannot hold onto all the information it processes.

2 A tune is more likely to stay in your head if

A it is simple and unoriginal.
B you have musical training.
C it is part of your culture.
D you have a good memory.

3 Robert Zatorre found that a part of the auditory cortex was activated when volunteers

A listened to certain types of music.
B learned to play a tune on an instrument.
C replayed a piece of music after several years.
D remembered a tune they had heard previously.

Questions 4-7

Instructions to follow

- Look at the following theories (Questions 4-7) and the list of people below.
- Match each theory with the person.
- Write the correct letter A-F in boxes 4-7 on your answer sheet.

4 The memorable nature of some tunes can help other learning processes.

A ○ B ○ C ○ D ○ E ○ F ○

5 Music may not always be stored in the memory in the form of separate notes.

A ○ B ○ C ○ D ○ E ○ F ○

6 People may have started to make music because of their need to remember things.

A ○ B ○ C ○ D ○ E ○ F ○

7 Having a song going round your head may happen to you more often when one part of the brain is tired.

A ○ B ○ C ○ D ○ E ○ F ○

List of people

A Roger Chaffin
B Susan Ball
C Steven Brown
D Caroline Palmer
E Sandra Calvert
F Leon James

Questions 8-13

Instructions to follow

- Reading Passage 1 has nine paragraphs labelled A-I.
- Which paragraph contains the following information?
- Write the correct letter A-I in boxes 8-13 on your answer sheet.
- NB You may use any letter more than once.

8 a claim that music strengthens social bonds.

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

9 two reasons why some bits of music tend to stick in your mind more than others.

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

10 an example of how the brain may respond in opposition to your wishes.

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

11 the name of the part of the brain where song-in-head syndrome begins.

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

12 examples of two everyday events that can set off song-in-head syndrome.

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

13 a description of what one person does to prevent song-in-head syndrome.

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

Section 2

Instructions to follow

- You should spend 20 minutes on Questions 14-27 which are based on Reading Passage 2.

Early occupations around the river Thames

A. In her pioneering survey, Sources of London English, Laura Wright has listed the variety of medieval workers who took their livings from the river Thames. The baillies of Queenhithe and Billingsgate acted as customs officers. There were conservators, who were responsible for maintaining the embankments and the weirs, and there were the garthmen who worked in the fish garths (enclosures). Then there were galleymen and lightermen and shoutmen, called after the names of their boats, and there were hookers who were named after the manner in which they caught their fish. The searcher patrolled the Thames in search of illegal fish weirs, and the tideman worked on its banks and foreshores whenever the tide permitted him to do so.

B. All of these occupations persisted for many centuries, as did those jobs that depended upon the trade of the river. Yet, it was not easy work for any of the workers. They carried most goods upon their backs, since the rough surfaces of the quays and nearby streets were not suitable for wagons or large carts; the merchandise characteristically arrived in barrels which could be rolled from the ship along each quay. If the burden was too great to be carried by a single man, then the goods were slung on poles resting on the shoulders of two men. It was a slow and expensive method of business.

C. However, up to the eighteenth century, river work was seen in a generally favourable light. For Langland, writing in the fourteenth century, the labourers working on river merchandise were relatively prosperous. And the porters of the seventeenth and early eighteenth centuries were, if anything, aristocrats of labour, enjoying high status. However, in the years from the late eighteenth to the early nineteenth century, there was a marked change in attitude. This was in part because the working river was within the region of the East End of London, which in this period acquired an unenviable reputation. By now, dockside labour was considered to be the most disreputable, and certainly the least desirable form of work.

D. It could be said that the first industrial community in England grew up around the Thames. With the host of river workers themselves, as well as the vast assembly of ancillary trades such as tavern-keepers and laundresses, food-sellers and street-hawkers, shopkeepers and marine store dealers – there was a workforce of many thousands congregated in a relatively small area. There were more varieties of business to be observed by the riverside than, in any other part of the city. As a result, with the possible exception of the area known as Seven Dials, the East End was also the most intensively inhabited region of London.

E. It was a world apart, with its own language and its own laws. From the sailors in the opium dens of Limehouse to the smugglers on the malarial flats of the estuary, the workers of the river were not part of any civilised society. The alien world of the river had entered them. That alienation was also expressed in the slang of the docks, which essentially amounted to back slang, or the reversal of ordinary words. This back slang also helped in the formulation of Cockney rhyming slang, so that the vocabulary of Londoners was directly affected by the life of the Thames.

F. The reports in the nineteenth-century press reveal a heterogeneous world of dock labour, in which the crowds of casuals waiting for work at the dock gates at 7.45 a.m. include penniless refugees, bankrupts, old soldiers, broken-down gentlemen, discharged servants, and ex-convicts. There were some 400-500 permanent workers who earned a regular wage and who were considered to be the patricians of dockside labour. However, there were some 2,500 casual workers who were hired by the shift. The work for which they competed fiercely had become ever more unpleasant.

Steam power could not be used for the cranes, for example, because of the danger of fire. So, the cranes were powered by treadmills. Six to eight men entered a wooden cylinder and, laying hold of ropes, would tread the wheel round. They could lift nearly 20 tonnes to an average height of 27 feet (8.2 metres), forty times in an hour. This was part of the life of the river unknown to those who were intent upon its more picturesque aspects.

Questions 14-19

Instructions to follow

- Reading Passage 2 has six paragraphs, A-F.
- Choose the correct heading, i-ix for A-F, from the list of headings below.
- Write the correct number, i-ix, in boxes 14-19 on your answer sheet.

List of Headings

i. A mixture of languages and nationalities

ii. The creation of an exclusive identity

iii. The duties involved in various occupations

iv. An unprecedented population density

v. Imports and exports transported by river

vi. Transporting heavy loads manually

vii. Temporary work for large numbers of people

viii. Hazards associated with riverside work

ix. The changing status of riverside occupations

14 Paragraph A

15 Paragraph B

16 Paragraph C

17 Paragraph D

18 Paragraph E

19 Paragraph F

Questions 20-21

Instructions to follow

- Choose Two letter, A-E.
- Write the correct letters, A-E, in boxes 20 & 21 on your answer sheet.

Which TWO statements are made about work by the River Thames before the eighteenth century?

A Goods were transported from the river by cart.

B The workforce was very poorly paid.

C Occupations were specialised.

D Workers were generally looked down upon.

A Physical strength was required.

Questions 22-23

Instructions to follow

- Choose two letters, A-E.
- Write the correct letters, A-E, in boxes 22 & 23 on your answer sheet.

Which TWO statements are made about life by the River Thames in the early nineteenth century?

A The area was very crowded.

B There was an absence of crime.

C Casual work was in great demand.

D Several different languages were in use.

A Inhabitants were known for their friendliness.

Questions 24-28

Instructions to follow

- Use NO MORE THAN TWO WORDS from the passage for each answer.

24 The workers in the docks were not part of any …….. society.

25 The slang of the docks was a …….. of ordinary words.

26 In the nineteenth century, only a minority of dock workers received a …….. .

27 Cranes were operated manually because …….. created a risk of fire.

28 Observers who were unfamiliar with London's docks found the River Thames …….. .

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 28-40 which are based on Reading Passage 3.

Human Guinea Pig

There are 50 million people in the world being used as guinea pigs in clinical trials testing experimental drugs. Apart from potentially risking part of their lives, applicants must pass a severe series of tests just to be able to participate in some trials. However, acceptance means more tests, negative side effects and a considerable disturbance to their daily lives. So, what's in it for them? As journalist Alex O'Meara explains in *Chasing Medical Miracles*, some participate out of genuine altruism, whilst some are looking for cures for their own disorders. O'Meara, having diabetes himself, volunteered for a risky transplant of insulin-producing cells from the liver, and his story spread through the book.

O'Meara knows people choose to participate for life's great motivator: money. Clinical trials are a huge business, making up to $24 billion annually, and the cash they offer as compensation has become a sought-after way to make extra money. This exchange of money often involves people who are sick and vulnerable and emphasises the dark ethical waters in which current clinical trials are mired.

At intervals, the ill feel compelled to join a trial to get medical care. Some unethical researchers, desperate to recruit the large numbers needed to make their researchers statistically valid, take advantage of this. It can be difficult for ill people to take that, at best, they are taking experimental medicine and at worst they are taking nothing at all.

Desperation for money or medicine is never a basis for unbiased decision-making. How can a researcher be sure a person is giving their true consent? And if a person gets better as a result of taking an experimental drug, what happens when their drug supply finishes after the trial?

These ethical quandaries have influenced healthcare in developed countries where clinical trials are a prospering industry. According to Adriana Petryna in *When Experiments Travel*, in spite of the fact that drug companies are moving their trials to developing countries, only 10% of drug research addresses disorders that influence the world's poor. Such diseases make up to 90% of the global disease burden. Establishing ethical and legal responsibilities is also becoming harder, she reports. With an increased number of subcontractors included in trials, it is clear that no one is overly concerned about patient welfare.

From this theory, international human rights frameworks such as the Nuremberg Code should ensure that participants are not taking any positive effect. In reality, largely poor and illiterate populations are being exploited. Besides, ethical regulations in poor countries are rarely strict, therefore researchers can get away with recruiting people into HIV trials knowing that they will die without the experimental drug.

O' Meara also reports about drug company's greed and the inability of regulators to control the rapidly increasing number of trials. The US Food and Drug Administration inspects less than 1% of the 350,000 registered trial sites. Drug firms are managing non-profit organizations that are undertaking just 30% of trials. However, in spite of their faults, clinical trials are still an essential tool of modern medicine.

Questions 29-36

Instructions to follow

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

For testing experimental 29 ..... , there are 50 million people being used as guinea pigs looking for remedies to 30 ..... in clinical trials in spite of the risks throughout the world. Actually, that means people are both eager for life's considerable milestone of 31 ..... to make up for insufficient labour pay in their lives and 32 ..... to participate in a trial. These ethical dilemmas have influenced health problems in 33 ..... where drug companies encouraged their trials.
From these situations between 34 ..... and ....., international human rights frameworks like 35 ..... should inform people of poverty of the poor countries which have a lack of 36 ..... ethical regulations.

Questions 37-39

Instructions to follow

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

37 Whilst some choose to cure themselves, some participated due to.....

38 Hopelessness for either ..... or ..... does not work for fair decision-making.

39 Drug companies invest a lot of money in developing countries, causing.....

Question 40

Instructions to follow

- Choose the correct letter A, B, C or D.

Which of the following phrases best describes the main aim of Reading Passage 3?

A ○ to warn the guinea pigs are likely to have financial problems

B ○ to describe how clinical trials were rapidly increasing and how serious they were

C ○ to suggest that the Nuremberg Code is needed in other countries

D ○ to examine how drug companies promoted the use of guinea pigs

IELTS Reading Test 6

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Growing of the Aging Society

A. American scientists say that the elderly are now healthier, happier and more independent. The results of a study that has taken place over a 14-year period will be released at the end of the month. The research will show that common health disorders suffered by the elderly are affecting fewer people and happening after in life.

B. Over the last 14 years, The National Long-term Health Care Survey has gathered data from more than 20,000 males and females over the age of 65 about their health and lifestyles. The group has analysed the results of data gathered in 1994 on conditions such as arthritis, high blood pressure and poor circulation; these were the most common medical complaints for this age group. The results show that these conditions are troubling a smaller proportion of people each year and decreasing very quickly. Other diseases suffered by the elderly including dementia, emphysema and arteriosclerosis are also affecting fewer people.

C. According to Kenneth Manton, a demographer from Duke University in North Carolina, "the question of what should be considered normal ageing has really changed." He also mentioned that diseases suffered by many people around the age of 65 in 1982 are now not occurring until people reach the age of 70-75.

D. It is clear that due to medical advances some diseases are not as prominent as they used to be. However, there were also other factors influencing this change. For instance, improvements in childhood nutrition in the first quarter of the twentieth century gave many people a better start in life than was possible before.

E. The data also shows some negative changes in public health. The research suggests that the rise of respiratory conditions such as lung cancer and bronchitis may reflect changing smoking habits and an increase in air pollution. Manton says that as we have been exposed to worse and worse pollution, it is not surprising that some people over the age of 60 are suffering as a result.

F. Manton also found that better-educated people are likely to live longer. For instance, women of 65 with less than eight years of education are expected to live to around 82. Those who studied more could be able to live seven years longer. Whilst some of this can be attributed to better-educated people usually having a higher income, Manton believes it is mainly because they pay closer attention to their health.

G. Also, the survey estimated how independent people of 65 were and found a striking trend. In the 1994 survey, almost 80% of them were able to complete activities such as eating and dressing alone as well as handling difficult tasks, like cooking and managing their financial affairs. This situation indicates an important drop among disabled elderly people in the population. If 14 years ago, the apparent trends in the US had continued, researchers believe that there would be one million disabled elderly people in today's population. Manton shows the trend saved more than $200 billion for the US's government's Medicare system, and it has suggested the elderly American population is less of a financial burden than expected.

H. The growing number of independent elderly people is probably linked to the huge increase in

home medical aids. For instance, the research shows the use of raising toilet seat covers and bath seats has increased by more than fifty per cent. Also, these developments about health benefits are reported by the MacArthur Foundation's research group for successful ageing. It found the elderly who are able to take care of themselves were more likely to stay healthy in their old age.

I. Retaining a certain level of daily physical activity may also help brain function, according to Carl Cotman, a neuroscientist at the University of California at Irvine. He found that rats exercising on a treadmill have higher levels of a brain-derived neurotrophic factor in their brains. He believes the hormone which holds neuron functions may prevent the active human's brain function from declining.

J. Teresa Seeman, a social epidemiologist at the University of Southern California in Los Angeles, was conducting the same research. She found a line between self-esteem and stress in people over 70. The elderly who do challenging activities such as driving have more control of their mind and have a lower level of the stress hormone cortisol in their brains. Chronically high levels of this hormone can cause heart disease.

K. However, an independent life may have negative points. Seeman knew that the elderly people that were living alone were able to retain higher levels of stress hormones even when sleeping. The research indicates that elderly people are happier if they can live an independent life but also acknowledge when they need help.

L. Seeman says, "With many cases of research about ageing, these results help common sense." Also, the situations show that we may be ignoring some of the simple factors. She mentions, "The sort of thing your grandmother always used to talk to you about seems to be exactly right."

Questions 1-6

Instructions to follow

- Reading Passage 1 has twelve paragraphs, A-L.
- Choose the correct heading for paragraphs B-G from the list of headings below.

List of Headings

i. Disorders strike much later in life.

ii. Drawbacks in public health.

iii. Longevity based on high education.

iv. The elderly people of today got better nutrition when they were children.

v. The elderly are becoming more well off.

vi. Most of independent people over 65 complete activities themselves.

vii. Diseases have decreased recently.

1 Paragraph B

2 Paragraph C

3 Paragraph D

4 Paragraph E

5 Paragraph F

6 Paragraph G

Questions 7-13

Instructions to follow

- Do the following statements reflect the claims of the writer in Reading Passage 1?
  TRUE if the statement agrees with the information
  FALSE if the statement contradicts the information
  NOT GIVEN if there is no information on this

7 Smoking habits are a crucial cause in some cancers.

8 The better-educated elderly people tend to live longer.

9 People over 65 can independently manage a variety of tasks.

10 Elderly people have overcome dementia as a result of home medical aids.

11 Continuing physical exercises is likely to assist digestive function.

12 People over 70 who still do challenging things such as driving are able to lower their level of the hormone cortisol which is linked to heart disease.

13 Isolation may cause a higher level of stress hormones.

Section 2

Electric Dreams

A. The days of the internal-combustion are numbered, and the fuel cell represents the future of automotive transport, says PETER BREWER. A. Some of the world's greatest inventions have been discovered by accident. One such accident led to the discovery of the fuel cell and another led to its commercialisation. And in around 30 years, when most of the energy analysts have predicted the oil wells will run dry, motorists will be thankful for both these strange twists of fate. Why? Simply because without the fuel cell to replace the combustion engine, private motoring as we all know it would be restricted to only those who could afford the high price.

B. The exact date of the discovery of the fuel cell is not known, but historians agree it most likely occurred around 1938 in the laboratories of British physicist Sir William Grove, who one day disconnected a simple electrolytic cell (in which hydrogen and oxygen are produced when water contacts an electric current running through a platinum wire) and reversed the flow of current. As author records in his book Powering the Future, Grove realized that just as he could use electricity to split water into hydrogen and oxygen it should be possible to generate electricity by combining these two gases.

C. The principle behind the fuel cell is simple. Hydrogen and oxygen, two of the most common elements in the world, are a very explosive combination. But separate them with a sophisticated platinum coated barrier and an electro chemical reaction takes place, where positively charged hydrogen ions react with oxygen and leave the hydrogen electrons behind. It is this reaction, the excess electrons on one side of the barrier and the deficit of electrons on the other that creates electrical energy.

D. The early development of the fuel cell was fraught with problems and high cost. But by 1954 US giant General Electric had produced a prototype that proved sufficiently effective to interest NASA. The Gemini space programme proved the viability of the fuel cell to provide electrical power. The spacecraft used six stacks of cells with three cells in each stack. The electrical power output from each stack was quite modest – just one kilowatt and as a byproduct, produced half a litre of water for each kilowatt hour of operation. But the Gemini Cells were very unstable and required constant monitoring.

E. At this time if anyone had suggested to Canadian Scientist Geoffrey Ballard that he would become a world leader in fuel cell technology, he would have laughed. Ballard's scientific background was actually geophysics, but during the oil-crisis of 1973, the US government asked the Canadian to explore alternative forms of energy. Ballard threw himself into the project enthusiastically but soon became disillusioned by the politics of the programme. Energy systems take a long time to develop, Ballard said. The short-term vision of politicians, who voted to fund such projects in the desire for quick results to bolster their re-election chances, were frustrating for the scientists. However, since the US government lacked the vision for the job, he decided to tackle it himself.

F. The big breakthrough on Ballard's fuel cell came by accident in the search for cheaper materials. Up until late 1986, Ballard's team had worked with only one type of fuel cell membrane manufactured by DuPont, but Dow Chemical had also developed a similar membrane, which had not been released for sale. Ballard's team tracked down an experimental sample of the Dow material, put it into a fuel cell and set up a standard test. Within a few minutes the fuel cell was generating so much electricity on the test bench that it had melted through the power-output cable.

G. Ballard immediately knew he had a saleable product. The problem was: Should he aim his fuel

cell at small markets like military field generators, wheelchairs and golf carts, or try to sell it as a full blown alternative to the combustion engine? “It was so needed and the world was ready for it,” Ballard said. “Los Angeles is dying; Vancouver is going to be eaten alive by its own pollution very shortly. It seemed like a time to go for broke.” Ballard Power Systems first built a small bus to demonstrate the technology, and then an even bigger bus.

H. As a result a number of multinational motor manufacturers, such as General Motors, Mitsubishi and Daimler-Benz all tested Ballard’s cells. Finally, Daimler formed an alliance with Ballard that has yielded some impressive prototypes, including a fully driveable fuel cellpowered A-class Mercedes-Benz compact car, known as Necar 4. Daimler Chlysler, as the merged Daimler-Benz and Chlysler Corporation is now known, says the fuel cell represents the future of automotive transport. “The significance of this technological advancement (the fuel cell) is comparable to the impact the microchip had on computer technology when it replaced the transistor,” said Dr Ferdinand Panik, the head of Daimler Chlysler’s fuel cell development team.

Questions 14-21

Instructions to follow

- There are 8 paragraphs numbered A-H in Reading Passage 2.
- From the list below numbered i- x, choose a suitable heading for the paragraphs.
- There are more headings than paragraphs, so you will not use all the headings.

14 Paragraph A

15 Paragraph B

16 Paragraph C

17 Paragraph D

18 Paragraph E

19 Paragraph F

20 Paragraph G

21 Paragraph H

i. A conflict of interests
ii. Science is sometimes a question of luck
iii. Using the fuel cell in different ways
iv. How does it work?
v. Deciding how to exploit the new product
vi. Using the fuel cell to be the first in the space race
vii. A key stage in the development of fuel cell
viii. A first step on the road to a new source of energy
ix. Applying the new technology on a global scale
x. The first fuel cell is tested

Questions 22-24

Instructions to follow

- Choose the most appropriate letter A B C or D.

22 The fuel cell generates electricity because

A hydrogen and oxygen can be used to create controlled explosions

B of the reaction which occurs when hydrogen and oxygen are separated

C hydrogen and oxygen are both gases

D hydrogen and oxygen both contain electrons

23 The Gemini space programme demonstrated that

A The fuel cell was too difficult to use in space programmes

B The fuel cell can only work with pure oxygen

C Generating a substantial amount of electricity requires many fuel cells

D The fuel cell could be used successfully

24 The US government asked Ballard to carry out fuel cell research because

A He was an expert in his field

B supplies of oil were running out

C They wanted to find new sources of energy

D He offered to work completely independently.

Questions 25-27

Instructions to follow

- Complete the sentences below by taking words from the passage. Use NO MORE THAN THREE WORDS.

25 The key step in the development of fuel cell occurred completely _____.

26 Ballard decided that the fuel cell could be used to reduce _____in large cities.

27 In an attempt to produce a more ecological car, Ballard _____with a major automobile corporation.

Section 3

History of telegraph in communication

Jean-Antoine Nollet was a French clergyman and physicist. In 1746 he gathered about two hundred monks into a circle about a mile (1.6 km) in circumference, with pieces of iron wire connecting them. He then discharged a battery of Leyden jars through the human chain and observed that each man reacted at substantially the same time to the electric shock, showing that the speed of electricity's propagation was very high. Given a more humane detection system, this could be a way of signaling over long distances. In 1748, Nollet invented one of the first electrometers, the electroscope, which detected the presence of an electric charge by using electrostatic attraction and repulsion.

After the introduction of the European semaphore lines in 1792, the world's desire to further its ability to communicate from a distance only grew. People wanted a way to send and receive news from remote locations so that they could better understand what was happening in the world around them—not just what was going on in their immediate town or city. This type of communication not only appealed to the media industry, but also to private individuals and companies who wished to stay in touch with contacts. In 1840 Charles Wheatstone from Britain, with William Cooke, obtained a new patent for a telegraphic arrangement.

The new apparatus required only a single pair of wires, but the telegraph was still too costly for general purposes. In 1 845, however, Cooke and Wheatstone succeeded in producing the single needle apparatus, which they patented, and from that time the electric telegraph became a practical instrument, soon adopted on all the railway lines of the country.

It was the European optical telegraph, or semaphore, that was the predecessor of the electrical

recording telegraph that changed the history of communication forever. Building on the success of the optical telegraph, Samuel F. B. Morse completed a working version of the electrical recording telegraph, which only required a single wire to send code of dots and dashes. At first, it was imagined that only a few highly skilled encoders would be able to use it but it soon became clear that many people could become proficient in Morse code. A system of lines strung on telegraph poles began to spread in Europe and America.

In the 1840s and 1850s several individuals proposed or advocated construction of a telegraph cable across the Atlantic Ocean, including Edward Thornton and Alonzo Jackman. At that time there was no material available for cable insulation and the first breakthrough came with the discovery of a rubber-like latex called gutta-percha. Introduced to Britain in 1843, gutta-percha is the gum of a tree native to the Malay Peninsula and Malaysia.

After the failure of their first cable in 1850, the British brothers John and Jacob Brett laid a successful submarine cable from Dover to Calais in 1851. This used two layers of gutta-percha insulation and an armoured outer layer. With thin wire and thick insulation, it floated and had to be weighed down with lead pipe.

In the case of first submarine-cable telegraphy, there was the limitation of knowledge of how its electrical properties were affected by water. The voltage which may be impressed on the cable was limited to a definite value. Moreover, for certain reasons, the cable had an impedance associated with it at the sending end which could make the voltage on the cable differ from the voltage applied to the sending-end apparatus. In fact, the cable was too big for a single boat, so two had to start in the middle of the Atlantic, join their cables and sail in opposite directions.

Amazingly, the first official telegram to pass between two continents was a letter of congratulation from Queen Victoria of the United Kingdom to the President of the United States,

James Buchanan, on August 16, 1 858. However, signal quality declined rapidly, slowing transmission to an almost unusable speed and the cable was destroyed the following month.

To complete the link between England and Australia, John Pender formed the British-Australian Telegraph Company. The first stage was to lay a 557nm cable from Singapore to Batavia on the island of Java in 1870. It seemed likely that it would come ashore at the northern port of Darwin from where it might connect around the coast to Queensland and New South Wales. It was an undertaking more ambitious than spanning the ocean. Flocks of sheep had to be driven with the 400 workers to provide food. They needed horses and bullock carts and, for the parched interior, camels. In the north, tropical rains left the teams flooded.

In the centre, it seemed that they would die of thirst. One critical section in the red heart of Australia involved finding a route through the McDonnell mountain range and then finding water on the other side. The water was not only essential for the construction teams. There had to be telegraph repeater stations every few hundred miles to boost the signal and the staff obviously had to have a supply of water.

On August 22, 1872, the Northern and Southern sections of the Overland Telegraph Line were connected, uniting the Australian continent and within a few months, Australia was at last in direct contact with England via the submarine cable, too. This allowed the Australian Government to receive news from around the world almost instantaneously for the first time. It could cost several pounds to send a message and it might take several hours for it to reach its destination on the other side of the globe, but the world would never be the same again. The telegraph was the first form of communication over a great distance and was a landmark in human history.

Questions 28-32

Instructions to follow

- Do the following statements agree with the information given in Reading Passage 3.
- TRUE if the statement agrees with the information
- FALSE if the statement contradicts the information
- NOT GIVEN if there is no information on this

28 People increasingly hoped to explore ways of long-distance communication in the late eighteenth century.

29 Using Morse Code to send message needed special personnel to first simplify the message,

30 Morse was a famous inventor before he invented the code.

31 Water was significant to early telegraph repeater stations on the continent.

32 The Australian Government offered funds for the first overland line across the continent.

Questions 33-40

Instructions to follow

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

33 Why did Charles Wheatstone's telegraph system fail to come into common use in the beginning?

C4. What material was used for insulating cable across the sea?

A5. What was used by British pioneers to increase the weight of the cable in the sea?

36. What would occur in the submarine cable when the voltage was applied?

37 Who did the Queen first send a message to, across the Atlantic ocean?

38 What animals were used to carry the cable through the desert?

39 What weather condition delayed construction in north Australia?

40 How long did it take to send a telegraph message from Australia to England in 1872?

IELTS Reading Test 7

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

The Green Revolution in China

A couple of weeks ago, China's highest government body published their conclusions from the second research session on continental climate change over a period of twelve months. Due to China's new global role and the number of unprecedented environmental issues in China, the Chinese prime minister was very keen to raise climate change as an important issue at the upcoming G8 summit in Hokkaido, Japan.

It should be highlighted that the Chinese central government also had a similar meeting and that China is a rapidly industrializing country with new coal-fueled power plants opening every week. China is like a terrifying carbon-guzzling monster. As a result of thirty years of industrialization, China now has the highest level of carbon dioxide emissions in the world. Carbon dioxide emissions are increasing up to eight per cent a year. The EU achieved a twenty per cent reduction, but China's emission rate was twice as much approaching the 2010 IPCC deadline for carbon dioxide emissions reduction.

However, it could be misleading to put too much emphasis on these statistics. A non-governmental organization (Climate Group) newspaper report presents a slightly different

picture. According to the Clean Revolution in China, China is a nation that is more than aware of its environmental issues but also has the potential to achieve a second miracle in 30 years.

The environmental price of the first “miracle” was that Chinese people always saw their daily lives. That’s why most of the policies are related to energy efficiency, energy-saving and other alternative energy sources. Those policies have already been met with some concern.

Whilst the personal sectors are so strong and developing, they are able to aid the central government to introduce laws, like the National Renewable Energy Law in 2006. This has set hard targets, including increasing the amount of energy made from new renewable sources from eight per cent to fifteen per cent until 2020. Also, it has guaranteed at least three per cent of renewable energy sources, such as biomass, solar and wind.

Both wind and solar power are so successful, but their origins are very different. With 6 gigawatts of energy made from wind turbines, surprisingly China is now ranked behind Germany, the US, Spain and India. Also, some believe China will reach 100 GW by 2020.

Wind power successfully shows that with central government aid China is ready for new policies, subsidies and advanced technology. This situation also has a role in the domestic market. The amount of electricity produced by wind farms can be a burden to fund.

Even though western countries invented an open marketplace set to dominate in China, there were few domestic incentives for solar power. In the global solar photovoltaic cell market, it is second only to Japan and growing fast. In China, the solar market has been a small business, because the cells are so expensive. This puts pressure on the government to rapidly follow up on their policies, for example, the role of the Climate Group is important in developing domestic markets.

However, the image of new coal-fueled power stations still looms large as they are opening every week. It is hard to imagine that China has achieved a 10.5 per cent of growth rate without such stations in the last quarter. However, how many people actually know that China has been closing its small power stations over the last couple of years? Step by step China is reducing its small power stations, first the 50-megawatt ones then the 100-megawatt ones and next will be the 300-megawatt power stations.

This policy is operated by the Chinese central government and backs up the new generation of coal station using the most advanced technologies with supercritical and ultra-supercritical improved clean coal. Capture functions and plants of carbon are researched and developed, but advanced thinking for the future is based on the technology of Integrated Gasification Combined Cycle (IGCC) that turn coal materials into synthetic gas to make power.

These days, Chinese consumers demand better homes and vehicles. Public awareness of energy-saving is on the rise. The Chinese government introduced a standard fuel economy for vehicles in 2004 of 15.6 kilometers per litre. This is higher than the US, Canada and Australia but behind Europe and Japan. In the meantime, in spite of a high 20 per cent tax on SUVs (Sport Utility Vehicles), the sale of these sorts of cars continues to increase.

Up to now, China has been the kingdom of the bicycle, importing the electric bike at 1,500 yuan ($220) per vehicle. Some of these vehicles have adopted an intelligent recovery system similar to that of hybrid cars. In 2007, the sale of electric bikes increased considerably and China is estimated to make up three-quarters of the world electric vehicle market.

China, already, is doing a lot on the bottom line. So, could it do more? The answer is yes, China should learn and open its mind through international communities. According to the Climate

Group, they report the world should refine their image of China, just not fear it and, constructively, work in unison. At the same time, China's government should develop a clean revolution and maintain internal pressure for improvements.

Questions 1-7

Instructions to follow

- Do the following statements reflect the claims of the writer in Reading Passage 1?
- In boxes 1-7 on your answer sheet, write
  YES if the statement reflects the opinion of the writer
  NO if the statement contradicts the opinion of the writer
  NOT GIVEN if it is impossible to say what the writer thinks about this

1. The Central Government of China concluded the second research scheme of climate change in less than one year.
2. The main topic of the G8 Meeting in Japan was to discuss greenhouse gas emissions.
3. The Chinese Government must compensate the European Union for the loss of climate change.
4. NGO's group reported about the truth of problems of a climate change in China.
5. Solar energy has increased the amount of energy.
6. With different launching, both wind and solar power are inefficient.
7. The high cost of cells causes less activity in the solar market in China.

Questions 8-13

Instructions to follow

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

8 China is emitting …… of the outstanding rates in the world.

9 Statistics that can be misleading have been corrected by a ……

10 In 2006 ……. has set a hard target, waxing the amount of renewable sources.

11 What are the renewable sources mentioned in the passage? ……

12 Wind energy is based on subsidies, policies and the equitable …….

13 …….. should support to develop the domestic market in China facing financial problems.

Section 2

Tasmanian Tiger

A. Although it was called tiger, it looked like a dog with black stripes on its hack and it was the largest known carnivorous marsupial of modern times. Yet, despite its fame for being one of the most fabled animals in the world, it is one of the least understood of Tasmania's native animals. The scientific name for the Tasmanian tiger is Thylacine and it is believed that they have become extinct in the 20th century.

B. Fossils of thylacines dating from about almost 12 million years ago have been dug up at various places in Victoria, South Australia and Western Australia. They were widespread in Australia 7,000 years ago, but have probably been extinct on the continent for 2,000 years ago. This is believed to be because of the introduction of dingoes around 8,000 years ago. Because of disease, thylacine numbers may have been declining in Tasmania at the time of European settlement 200 years ago, but the decline was certainly accelerated by the new arrivals. The last known Titsmanijin Tiger died in I lobar! Zoo in 193fi and the animal is officially classified as extinct. Technically, this means that it has not been officially sighted in the wild or captivity for 50 years. However, there are still unsubstantiated sightings.

C. Hans Naarding, whose study of animals had taken him around the world, was conducting a survey of a species of endangered migratory bird. The cat he saw that night is now regarded as the most credible sighting recorded of thylacine that many believe has been extinct for more than 70 years.

D. "I had to work at night." Naarding takes up the story. "I was in the habit of intermittently

shining a spotlight around. The beam fell on an animal in front of the vehicle, less than 10m away. Instead of risking movement by grabbing for a camera, I decided to register very carefully what I was seeing. The animal was about the size of a small shepherd dog, a very healthy male in prime condition. What set it apart from a dog, though, was a slightly sloping hindquarter, with a fairly thick tail being a straight continuation of the backline of the animal. It had 12 distinct stripes on its back, continuing onto its butt. I knew perfectly well what I was seeing. As soon as I reached for the camera, it disappeared into the tea-tree undergrowth and scrub."

E. The director of Tasmania's National Parks at the time, Peter Morrow, decided in his wisdom to keep Naarding's sighting of the thylacine secret for two years. When the news finally broke, it was accompanied by pandemonium. "I was besieged by television crews, including four to five from Japan, and others from the United Kingdom, Germany, New Zealand and South America," said Naarding.

F. Government and private search parties combed the region, but no further sightings were made. The tiger, as always, had escaped to its lair, a place many insist exists only in our imagination. But since then, the thylacine has staged something of a comeback, becoming part of Australian mythology.

G. There have been more than 4,000 claimed sightings of the beast since it supposedly died out, and the average claims each year reported to authorities now number 150. Associate professor of zoology at the University of Tasmania, Randolph Rose, has said he dreams of seeing a thylacine. But Rose, who in his 35 years in Tasmanian academia has fielded countless reports of thylacine sightings, is now convinced that his dream will go unfulfilled.

H. "The consensus among conservationists is that usually; any animal with a population base of less than 1,000 is headed for extinction within 60 years," says Rose. "Sixty years ago, there was

only one thylacine that we know of, and that was in Hobart Zoo," he says.

I. Dr. David Pemberton, curator of zoology at the Tasmanian Museum and Art Gallery, whose PhD thesis was on the thylacine, says that despite scientific thinking that 500 animals are required to sustain a population, the Florida panther is down to a dozen or so animals and, while it does have some inbreeding problems, is still ticking along. "I'll take a punt and say that, if we manage to find a thylacine in the scrub, it means that there are 50-plus animals out there."

J. After all, animals can be notoriously elusive. The strange fish is known as the coelacanth' with its "proto-legs", was thought to have died out along with the dinosaurs 700 million years ago until a specimen was dragged to the surface in a shark net off the south-east coast of South Africa in 1938.

K. Wildlife biologist Nick Mooney has the unenviable task of investigating all "sightings" of the tiger totaling 4,000 since the mid-1980s, and averaging about 150 a year. It was Mooney who was first consulted late last month about the authenticity of digital photographic images purportedly taken by a German tourist while on a recent bushwalk in the state. On face value, Mooney says, the account of the sighting, and the two photographs submitted as the proof amount to one of the most convincing cases for the species' survival he has seen.

L. And Mooney has seen it all – the mistakes, the hoaxes, the illusions and the plausible accounts of sightings. Hoaxers aside, most people who report sightings end up believing they have been a thylacine, and are themselves believable to the point they could pass a lie-detector test, according to Mooney. Others, having tabled a creditable report, then become utterly obsessed like the Tasmanian who has registered 99 thylacine sightings to date. Mooney has seen individuals bankrupted by the obsession, and families destroyed. "It is a blind optimism that something is, rather than a cynicism that something isn't," Mooney says. "If something crosses

the road, it's not a case of 'I wonder what that was?' Rather, it is a case of 'that's a thylacine!' It is a bit like a gold prospector's blind faith, 'it has got to be there'."

M. However, Mooney treats all reports on face value. "I never try to embarrass people or make fools of them. But the fact that I don't pack the car immediately they ring can often be taken as ridicule. Obsessive characters get irate that someone in my position is not out there when they think the thylacine is there."

N. But Hans Naarding, whose sighting of a striped animal two decades ago was the highlight of "a life of animal spotting", remains bemused by the time and money people waste on tiger searches. He says resources would be better applied to save the Tasmanian devil, and helping migratory bird populations that are declining as a result of shrinking wetlands across Australia.

O. Could the thylacine still be out there? "Sure," Naarding says. But he also says any discovery of surviving thylacines would be "rather pointless". "How do you save a species from extinction? What could you do with it? If there are thylacines out there, they are better off right where they are."

Questions 14-17

Instructions to follow

- Complete the summary below.
- Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage for each answer.
- Write your answers in boxes 14-17 on your answer sheet.

The Tasmanian tiger, also called thylacine, resembles the look of a dog and has ……14…… on its fur coat. Many fossils have been found, showing that thylacines had existed as early as ……15…… years ago. They lived throughout ……16…… before disappearing from ……17……

the mainland. And soon after the …… settlers arrived the size of the thylacine population in Tasmania shrunk at a higher speed.

Questions 18-23

Instructions to follow

- Look at the following statements (Questions 18-23) and the list of people below, match each statement with the correct person A, B, C or D.
- Write the correct letter A, B, C or D in boxes 18-23 on your answer sheet.
- NB You may use any letter more than once.

18 His report of seeing a live thylacine in the wild attracted international interest.

A ○ B ○ C ○ D ○

19 Many eye-witnesses' reports are not trustworthy.

A ○ B ○ C ○ D ○

20 It doesn't require a certain number of animals to ensure the survival of a species.

A ○ B ○ C ○ D ○

21 There is no hope of finding a surviving Tasmanian tiger.

A ○ B ○ C ○ D ○

22 Do not disturb them if there are any Tasmanian tigers still living today.

A ○ B ○ C ○ D ○

23 The interpretation of evidence can be affected by people's beliefs.

A ○ B ○ C ○ D ○

List of People

A Hans Naarding

B Randolph Rose

C David Pemberton

D Nick Mooney

Questions 24-26

Instructions to follow

- Choose the correct letter A, B, C or D.
- Write the correct letter in boxes 24-26 on your answer sheet.

24 Hans Naarding's sighting has resulted in

A government and organisations' cooperative efforts to protect thylacine

B extensive interests to find a living thylacine.

C increase in the number of reports of thylacine worldwide.

D growth of popularity of thylacine in literature.

25 The example of the coelacanth is to illustrate

A it lived in the same period with dinosaurs.

B has dinosaurs evolved legs.

C some animals are difficult to catch in the wild.

D extinction of certain species can be mistaken.

26 Mooney believes that all sighting reports should be

A given some credit as they claim even if they are untrue.

B acted upon immediately.

C viewed as equally untrustworthy.

D questioned and carefully investigated.

Section 3

Left or Right?

A. Creatures across the animal kingdom have a preference for one foot, eye or even antenna. The cause of this trait, called lateralisation, is fairly simple: one side of the brain, which generally controls the opposite side of the body, is more dominant than the other when processing certain tasks. This does, on some occasions, let the animal down, such as when a toad fails to escape from a snake approaching from the right, just because it's right eye is worse at spotting danger than its left. So why would animals evolve a characteristic that seems to endanger them?

B. For many years it was assumed that lateralisation was a uniquely human trait, but this notion rapidly fell apart as researchers started uncovering evidence of lateralisation in all sorts of animals. For example, In the 1970s. Lesley Rogers, now at the University of New England in Australia, was studying memory and learning in chicks. She had been injecting a chemical into chicks' brains to stop them learning how to spot grains of food among distracting pebbles, and was surprised to observe that the chemical only worked when applied to the left hemisphere of the brain. That strongly suggested that the right side of the chicks brain played little or no role in the learning of such behaviours. Similar evidence appeared in songbirds and rats around same time, and since then, researchers have built up an impressive catalogue of animal lateralisation.

C. In some animals, lateralisation is simply a preference for a single paw or foot, while in others it appears in more general patterns of behaviour. The left side of most vertebrate brains, for example, seems to process and control feeding. Since the left hemisphere processes input from the right side of the body, that means animals as diverse as fish, toads and birds are more likely to attack prey or food items viewed with their right eye. Even humpback whales prefer to use the

right side of their jaws to scrape sand eels from the ocean floor.

D. Genetics plays a part in determining lateralisation, but environmental factors have an impact too. Rogers found that a chick's lateralisation depends on whether it is exposed to light before hatching from its egg - if it is kept in the dark during this period, neither hemisphere becomes dominant. In 2004, Rogers used this observation to test the advantages of brain bias in chicks faced with the challenge of multitasking. She hatched chicks with either strong or weak lateralisation, then presented the two groups with food hidden among small pebbles and the threatening shape of a fake predator flying overhead. As predicted, the birds incubated in the light looked for food mainly with their right eye, while using the other to check out the predator The weakly-lateralized chicks, meanwhile, had difficulty performing these two activities simultaneously.

E. Similar results probably hold true for many other animals. In 2006, Angelo Bisazza at the University of Padua set out to observe the differences in feeding behaviour between strongly-lateralized and weakly-lateralized fish. He found that strongly-lateralized individuals were able to feed twice as fast as weakly-lateralized ones when there was a threat of a predator looming above them. Assigning different jobs to different brain halves may be especially advantageous for animals such as birds or fish, whose eyes are placed on the sides of their heads. This enables them to process input from each side separately, with different tasks in mind.

F. And what of those animals who favour a specific side for almost all tasks? In 2009, Maria Magat and Culum Brown at Macquarie University in Australia wanted to see if there was general cognitive advantage in lateralisation. To investigate, they turned to parrots, which can be either strongly right- or left-footed, or ambidextrous (without dominance). The parrots were given the intellectually demanding task of pulling a snack on a string up to their beaks, using a coordinated

combination of claws and beak. The results showed that the parrots with the strongest foot preferences worked out the puzzle far more quickly than their ambidextrous peers.

G. A further puzzle is why are there always a few exceptions, like left-handed humans, who are wired differently from the majority of the population? Giorgio Vallortigora and Stefano Ghirlanda of Stockholm University seem to have found the answer via mathematical models. These have shown that a group of fish is likely to survive a shark attack with the fewest casualties if the majority turn together in one direction while a very small proportion of the group escape in the direction that the predator is not expecting.

H. This imbalance of lateralisation within populations may also have advantages for individuals. Whereas most co-operative interactions require participants to react similarly, there are some situations - such as aggressive interactions - where it can benefit an individual to launch an attack from an unexpected quarter. Perhaps this can portly explain the existence of left-handers in human societies. It has been suggested that when it comes to hand-to-hand fighting, left-handers may have the advantage over the right-handed majority. Where survival depends on the element of surprise, it may indeed pay to be different.

Questions 27-30

Instructions to follow

- Complete each sentence with the correct ending. A-F, below.

27 In the 1970s, Lesley Rogers discovered that

A ○ B ○ C ○ D ○ E ○ F ○

28 Angelo Bisazza's experiments revealed that

A ○ B ○ C ○ D ○ E ○ F ○

29 Magat and Brown's studies show that

A ○ B ○ C ○ D ○ E ○ F ○

30 Vallortigora and Ghirlanda's research findings suggest that

A ○ B ○ C ○ D ○ E ○ F ○

A lateralisation is more common in some species than in others.

B it benefits a population if some members have a different lateralisation than the majority.

C lateralisation helps animals do two things at the same time.

D lateralisation is not confined to human beings.

E the greater an animal's lateralisation, the better it is at problem-solving.

F strong lateralisation may sometimes put groups of animals in danger.

Questions 31-35

Instructions to follow

- Complete the summary below. Choose ONE WORD ONLY from the passage.

Lesley Rogers' 2004 Experiment

Lateralisation is determined by both genetic and _____31_____ influences. Rogers found that chicks whose eggs are given _____32_____during the incubation period tend to have a stronger lateralisation. Her 2004 experiment set out to prove that these chicks were better at

_____than weakly lateralized chicks. As expected, the strongly lateralized birds in the experiment were more able to locate _____ using their right eye while using their left eye to monitor an imitation _____located above them.

Questions 36-40

Instructions to follow

- Reading Passage 3 has eight paragraphs, A-H.
- Which paragraph contains the following information?

B description of a study which supports another scientist's findings.

37 the suggestion that a person could gain from having an opposing lateralisation to most of the population.

38 reference to the large amount of knowledge of animal lateralisation that has accumulated.

39 research findings that were among the first to contradict a previous belief.

40 a suggestion that lateralisation would seem to disadvantage animals.

IELTS Reading Test 8

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

The Need to Belong

No one likes to feel left out, ignored by colleagues at meetings or not be invited to the big party that everyone is talking about. Imagine not being part of a joke, or worse still, if the joke is on you. For most people, living the life of an outsider can have a negative effect on self-esteem and mood. It can even lead to negative behaviour. The pull to belong is extremely strong. Scientists believe that, in part, there is an evolutionary explanation for why we have this need to belong.

In the past, people hunted and cooked together in tribes and each member of the group would be assigned a role. As each member had a purpose, it meant that in the event of the loss of one person, the group as a whole would suffer. For this reason, they had a vested interest in protecting each other. To our prehistoric ancestors, membership of a group meant the difference between survival and death.Those who were rejected and excluded from joining a group had to fend for themselves and struggled to stay alive alone in the wild.

Apart from protection, being part of a group also ensured that genes could be passed onto future generations. Although it is very different now from the way our primitive ancestors lived, our brains have not had time to evolve to fit today's lifestyles. In this day and age, it is no longer a matter of survival to be affiliated to a tribe or group, but the evolutionary instinct to find protection still lingers.

This inherent feeling of security that comes with being part of a group is powerful enough to make people employ both conscious and unconscious strategies to gain membership. One obvious way people try to be accepted into a group is self-presentation, which is the act of portraying yourself in the best possible light An individual will attempt to outwardly display the characteristics which are important to the group's advancement At the same time, they will conceal any parts of their personality that may be seen as undesirable or not useful to a group.

An example of self-presentation is the job application process. A candidate applying for a job will promote themselves as motivated, but is likely to hide the fact that they are disorganised. These conscious tactics that people use are not a surprise to anyone, but we also use other strategies unknowingly.

Psychologists Jessica Larkin, Tanya Chartrand and Robert Arkin suggested that people often resort to automatic mimicry to gain affiliation into groups, much like our primitive ancestors used to do. Before humans had the ability to speak, physical imitation was a method of begging for a place in the group. Most will be unaware they are doing it. Larkin and her co-workers decided to test this hypothesis.

They took a group of student volunteers and had them play a game called Cyberball, a ball tossing arcade game that resembled American football. The volunteers were led to believe they were all playing against each other, but in actual fact they were not. The computer was manipulating the game by passing the ball to some volunteers and excluding others.

The 'accepted and 'rejected students were then asked if they enjoyed the game and about their opinions of the other players. Participants were then put alone in a room and their natural foot movements were filmed. Then a female entered the room under the pretence of conducting a

fake photo description task. The female deliberately moved her foot during the task, but not in a way that would be noticeable to the volunteer. It turned out that the rejected students mimicked the female's foot movements the most This revealed that after exclusion, people will automatically mimic to affiliate with someone new.

However, Larkin and her colleagues wanted to go further.They believed that more often than not, in the real world, we actually know the people that reject us. How do we behave towards the group that we know has excluded us? The experiment was repeated with this question in mind. In the second experiment, only female volunteers played the Cyberball game, during which they experienced rejection by either men or women.Then each volunteer did the fake photo task, but this time with a man and then a woman.

The results clearly indicated that the female students that felt rejected would unconsciously make more of an effort to mimic members of their own in-group – that is, other women – rather than men. This deep-wired instinct to mimic was not only directed towards random people, as initially thought, but targeted to specific groups, the particular group that did the rejecting in the first place.

To some, it is inconceivable why people will go to great lengths to be accepted into one of life's social groups or clubs, enduring rejection and sometimes humiliation in order to be accepted. You only have to look at college campuses, which are notorious for strict initiations inflicted on candidates desperately seeking membership. But it happens and will continue to happen, because the desire to belong is a very powerful force and a fundamental part of human nature.

Questions 1-5

Instructions to follow

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

Modern man's basic need to belong to clubs and groups dates back to early history. Each person within the group had a ……1…….. to play and was considered integral to the entire group's dynamics and success. For an individual, belonging to a group could affect their chances of ……2…….. In those times, few could avoid death living alone in ……3…….. . Living with other humans offered ……4…….. from danger. Staying in a group also meant that ……5…… could be passed down to descendants.

Questions 6-10

Instructions to follow

- Use NO MORE THAN THREE WORDS from the passage for each answer.

THE PROCEDURE FOR LARKIN'S EXPERIMENT

6 Volunteers believed they were playing a computer game, similar to ……

7. The computer was controlling the gameplay, …… to some and not others.

8 The volunteers gave their …… after the game.

9 Each volunteer first sat on their own in a room and had their foot movements ……

10 The volunteer took part in a task with a woman who …… on purpose

Questions 11-13

Instructions to follow

- Choose the correct letter A,B,C or D.

11 Which of the following is NOT mentioned in the first paragraph?

A one experts view on evolution
B the consequences of being excluded
C being made fun of by the people around you
D a social event that people are eagerly awaiting

12 According to the article, which method do people consciously use to obtain membership into their chosen group?

A They tell the group they are strongly motivated.
B They convey the best parts of their personality to the group.
C They show how the group will be important to their lives.
D They alter aspects of their personality to suit others.

13 The writer's main purpose in writing this article is to

A explain how people feel when they face rejection.
B encourage people to go it alone and not be part of a group
C show the unconscious drive behind the need to belong.
D compare how the modern lifestyle is different to the past.

Section 2

Terrific Tupperware

A. Throw open anyone's kitchen cupboards from Andorra to Zimbabwe, and you'll find colourful plastic products for the preparation, serving, and storage of food. Chances are, some of these are Tupperware.

B. For many people in developed countries, Tupperware is redolent of the 1950s when grandma and her friends bought and sold it at 'Tupperware parties'. Some would even say Tupperware became a cultural icon in that decade. However, these days, while parties are still popular, online sales are challenging the model. Indeed, since 2000, more Tupperware franchises have opened in China than anywhere else.

C. Take the Hundred Benefits shop in Hangzhou, one of China's fastest-growing cities. Located in a chic part of town, it's full of twenty-somethings who haven't yet had a child but are building a nest. They've got plenty of expendable income, and they're picking out items to reflect their new-found optimism. China is undergoing a home-decorating revolution after years of dull, unreliable products.

Furthermore, the average size of living space for urban Chinese has almost doubled recently, so there's room for lots of stuff. But why choose a Tupperware? It's functional as well as fun. It's sealable, stackable, durable, microwave-and-freezable, dishwasher-friendly, and culturally sensitive: four-layer traditional Chinese lunch-boxes, revamped in bright sexy colours, grace the shelves of the Hundred Benefits shop.

D. What is the Tupperware story? The special plastic used in it was invented in 1938 by an

American called Earl Tupper. The famous seals, which keep the air out and freshness in, came later. Tupper's company was established in 1946, and for more than 40 years boasted every success, but, recently, Tupperware Brands Corporation has been sold several times, and its parent company, Illinois Tool Works, has announced that declining American prospects may mean resale.

E. Until the 1990s, Tupperware relied totally on a pyramid sales model. In this, a person buys products from a person above him or her, rather than from a wholesale company or retail shop, and after-sale of the new product to a third party gives a small percentage of the money to the person from whom he or she originally bought. In turn, when the person on the lowest level recruits more vendors, those people return percentages to the person above. Initially, Tupperware operated like this because it was not available in shops. A more direct line between the manufacturer and the buyer results in cheaper products, and, as Tupperware is largely sold in the home, women suddenly have an independent income. A disadvantage might be that since people typically buy from and sell to friends, there are pressures at ordinary social gatherings to do deals, which some people may consider unethical. This raises the question: am I going for a pleasant dinner at Alison's; or am I expected to buy a set of measuring cups from her as I leave?

This pyramid model is prohibited in China and has lost favour in many countries like Britain, Germany, Australia, and New Zealand, where once it was all-pervasive. At present, most US sales are still on the party plan, but online and franchise sales are catching up.

F. Tupperware became fashionable after World War II. During the war, large numbers of women were in paid employment outside the home while their men were away fighting. When the men returned, the women mostly resumed their household duties. There are widely divergent views about Tupperware's role at this time. Some feminists propose that the company promulgated an image of women confined to the kitchen, making the female pursuit of a career less likely. Others

say that the pyramid sales model allowed women to earn, promoting autonomy and prosperity. In particular, those who were pregnant and at home could enjoy some extra cash.

G. Effective rebranding of Tupperware has taken place in the East, but what about in America? Well, the Tupperware website there has developed a 'Chain of Confidence' programme to improve sales. In this, women reinforce the notion of female solidarity by purchasing Tupperware and swapping true stories. Over a million dollars from this programme has also been donated to a girls' charity.

H. What the future holds for the pretty plastic product is uncertain. Will Tupperware become a relic of the past like cane baskets and wooden tea chests, or will online social programmes and avid Chinese consumers save the company?

Questions 14-17

Instructions to follow

- The text has eight paragraphs: A-H.
- Which paragraph, A-H, has the following information?
- Write the correct letter, A-H, in boxes 14-17 on your answer sheet.

14 The benefits of Tupperware in the kitchen.

15 Opposing views on Tupperware and the position of women.

16 A sales model which might spoil the friendship.

17 Worldwide availability of Tupperware.

Questions 18-22

Instructions to follow

- Look at questions 18-22 and the list of countries below.
- Match each statement with a country.
- Write the letters, A-D, in boxes 18-22 on your answer sheet.

18 Consumers here are now less keen on the pyramid sales model

A ○ B ○ C ○ D ○

19 Tupperware buyers in this country give money to help others

A ○ B ○ C ○ D ○

20 Young women here lead the way in the purchase of Tupperware

A ○ B ○ C ○ D ○

21 The writer uses this to represent many countries

A ○ B ○ C ○ D ○

22 Just after World War II, Tupperware was established here

A ○ B ○ C ○ D ○

List of countries

A Andorra

B China

C Germany

D US

Questions 23-26

Instructions to follow

- Do the following statements agree with the claims of the writer in Reading Passage 2?
- In boxes 23-26 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

23 Keeping food fresh is something Tupperware does well.

24 Tupperware was responsible for a negative image of women in the 1950s.

25 Rebranding in China has been unsuccessful.

26 Tupperware containers are good for the environment.

Section 3

America's oldest art?

Set within treacherously steep cliffs, and hidden away valleys of northeast Brazil, is some of Southeast America's most significant and spectacular rock-art. Most of the art so far discovered from the ongoing excavations comes from the archaeologically – important National Park of the Serra da Capivara in the state of Piaui, and it is causing quite a controversy. The reason for the uproar? The art is being dated to around 25.CC0 or perhaps. According to some archaeologists, even 36,000 years ago. If correct, this is set to challenge the widely held view that America was first colonized from the north, via the Bering Straits from eastern Siberia at around 10.000 BC. only moving down into Central and South America in the millennia thereafter.

Prior to the designation of 130,000 hectares as a National Park, the rock-art sites were difficult to get to. and often dangerous to enter. In ancient times, this inaccessibility must have heightened the importance of the sites, and indeed of the people who painted on the rocks. Wild animals and human figures dominate the an. and are incorporated into often-complex scenes involving hunting, supernatural beings, fighting and dancing. The artists depicted the animals that roamed the local ancient brushwood forest. The large mammals are usually planted in groups and tend to be shown a running stance, as though trying to escape from hunting parties. Processions – lines of human and animal figures – also appear of great importance to these ancient artists. Might such lines represent family units or groups of warriors? On a number of panels, rows of stylized figures, some numbering up to 30 individual figures, were painted using the natural undulating contours of the rock surface, so evoking the contours of the seconding landscape. Other interesting, but very rare, occurrences are scenes that show small human figures holding on to and dancing around a tree, possibly involved in some tom of a ritual dance.

Due to the favourable climatic conditions. The imagery on many panels is in a remarkable state of preservation. Despite this, however, there are serious conservation issues that affect their long term survival. The chemical and mineral quantities of the rock on which the imagery is painted is fragile and on several panels it is unstable. As well as the secretion of sodium carbonate on the rock surface, complete panel sections have, over the ancient and recent past, broken away from the main rock surface. These have then become buried and sealed into sometimes-ancient floor deposits. Perversely, this form of natural erosion and subsequent deposition has assisted archaeologists in dating several major rock-art sites. Of course, dating the art is extremely difficult due to the non-existence of plant and animal remains that might be scientifically dated. However, there am a small number of sites in the Serra da Capivara that are giving up their secrets through good systematic excavation. Thus, at Toca do Roquismo da Pedra Furada. rock-art researcher Niede Guidon managed to obtain a number of dates. At different levels of excavation, she located fallen painted rock fragments, which she was able to date to at least 36,000 years ago. Along with toe painted fragments, crude stone tools were found. Also discovered wore a series of scientifically datable sites of fireplaces, or hearths, the earliest dated to 46,000 BC arguably the oldest date for human habitation in America.

However, these conclusions are not without controversy. Critics, mainly from North America, have suggested that the hearths may in fact be a natural phenomenon, the result of seasonal brushwood fires. Several North American researchers have gone further and suggested that the rock art from this site dates from no earlier than about 3,730 years old, based on the results of limited radiocarbon dating. Adding further fool to the general debate is the fact that the artists in the area of the National Hark tended not to draw over old motifs (as often occurs with rock-art), which makes it hard to work out the relative chronology of the images or styles. However, the diversity of imagery and the narrative the paintings create from each of the many sites within the National Park suggests different artists were probably making their art at different times, and potentially using each site over many thousands of years.

With fierce debates thus raging over tho dating, where these artists originate from is also still very much open to speculation. The traditional view ignores the early dating evidence from the South American rock-art sites. In a revised scenario, some palaeo – anthropologists are now suggesting that modern humans may have migrated from Africa using the strong currents of the Atlantic Ocean some 63.000 years or more ago, while others suggest a more improbable colonization coming from the Pacific Ocean. Yet, while either hypothesis is plausible, there is still no supporting archaeological evidence between the South American coastline and the interior. Rather, it seems possible that there were a number of waves of human colonization of the Americas occurring possibly over a 60,000-100,000 year period, probably using the Bering Straits as a land bridge to cross into the Americas.

Despite the compelling evidence from South America, it stands alone: the earliest secure human evidence yet found in the state of Oregon in North America only dates to 12,300 years BC. So this is a fierce debate that is likely to go on for many more years. However, the splendid rock art and its allied anthropology of northeast Brazil, described here, is playing a huge and significant role in the discussion.

Questions 27-29

Instructions to follow

- Choose the correct letter, A, B, C or D.

27 According to the first paragraph, the rock-art in Serra da Capivara may revolutionize accepted ideas about …….

A the way primitive people lived in North America.

B the date when the earliest people arrived in South America.

C the origin of the people who crossed the Bering Straits.

D

the variety of cultures which developed in South America.

28 How did the ancient artists use the form of the rock where they painted?

- A to mimic the shape of the countryside nearby
- B to emphasize the shape of different animals
- C to give added light and shade to their paintings
- D to give the impression of distance in complex works

29 In the fourth paragraph, what does the winter say that is unusual about the rock-artists of Serra da Capivara?

- A They had a very wide range of subject-matter.
- B Their work often appears to be illustrating a story.
- C They tended to use a variety of styles in one painting,
- D They rarely made new paintings on top of old ones.

Questions 30-36

Instructions to follow

- In boxes 30-36 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

30 Archaeologists have completed their survey of the rock-art in Piaui.

31 The location of the rock-art suggests that the artists had a significant role in their society.

32 The paintings of animals show they were regarded as sacred by the ancient humans.

33 Some damage to paintings is most likely due to changes in the weather of the region.

34. The fact that some paintings were buried is useful to archaeologists.

A 5. The tools found near some paintings were probably used for hunting animals.

B 6. The North American researchers have confirmed Niede Guidon's dating of the paintings.

Questions 37-40

Instructions to follow

- Complete each sentence with the correct ending, A-F below.

37 Materials derived from plants or animals .....

A ○ B ○ C ○ D ○ E ○ F ○

38 The discussions about the ancient hearths .....

A ○ B ○ C ○ D ○ E ○ F ○

39 Theories about where the first South Americans originated from .....

A ○ B ○ C ○ D ○ E ○ F ○

40 The finds of archaeologists in Oregon .....

A ○ B ○ C ○ D ○ E ○ F ○

A are giving rise to a great deal of debate among palaeo-anthropologists.

B do not support the earliest dates suggested for the arrival of people in America.

C are absent from rock-art sites In the Serra da Capivara.

D have not been accepted by academics outside America.

E centre on whether or not they are actually man-made.

F reflect the advances in scientific dating methods

IELTS Reading Test 9

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Astronaut ice cream, anyone?

Breeze-drying is a technique that can help to provide food for astronauts. But it also has other applications nearer home.

A. Freeze-drying is like suspended animation for food: you can store a freeze-dried meal for years, and then, when you're finally ready to eat it. you can completely revitalise it with a little hot water. Even after several years, the original foodstuff will be virtually unchanged.

B. The technique basically involves completely removing the water from some material, such as food while leaving the rest of the material virtually intact. The main reason for doing this is either to preserve the food or to reduce its weight. Removing the water from food keeps it from spoiling, because the microorganisms such as bacteria that cause spoiling cannot survive without it. Similarly, the enzymes which occur naturally in food cannot cause ripening without water, so removing water from food will also stop the ripening process.

C. Freeze-drying significantly reduces the total weight of the food because most food is largely made up of water; for example, many fruits are more than 80 00% water. Removing this makes the food much lighter and therefore makes transportation less difficult. The military and

camping-supply companies freeze-dry foods to make them easier for an individual to carry and NASA has also freeze-dried foods for the cramped quarters on board spacecraft.

D. The process is also used to preserve other sorts of material, such as pharmaceuticals. Chemists can greatly extend pharmaceutical shelf life by freeze-drying the material and storing it in a container free of oxygen and water. Similarly, research scientists may use freeze-drying to preserve biological samples for long periods of time. Even valuable manuscripts that had been water damaged have been saved by using this process.

E. Freeze-drying is different from simple drying because it is able to remove almost all the water from materials, whereas simple drying techniques can only remove 90-95%. This means that the damage caused by bacteria and enzymes can virtually be stopped rather than just slowed down. In addition, the composition and structure of the material is not significantly changed, so materials can be revitalised without compromising the quality of the original.

F. This is possible because in freeze-drying, solid water – ice – is converted directly into water vapour, missing out the liquid phase entirely. This is called 'sublimation', the shift from a solid directly into a gas. Just like evaporation, sublimation occurs when a molecule gains enough energy to break free from the molecules around it. Water will sublime from a solid (ice) to a gas (vapour) when the molecules have enough energy to break free but the conditions aren't right for a liquid to form.

These conditions arc determined by heat and atmospheric pressure. When the temperature is above freezing point, so that ice can thaw, but the atmospheric pressure is too low for a liquid to form (below 0.06 atmospheres (ATM)) then it becomes a gas.

G. This is the principle on which a freeze-drying machine is based. The material to be preserved

is placed in a freeze-drying chamber which is connected to a freezing coil and refrigerator compressor. When the chamber is sealed the compressor lowers the temperature inside it. I he material is frozen solid, which separates the water from everything around it on a molecular level, even though the water is still present. Next, a vacuum pump forces air out of the chamber, lowering the atmospheric pressure below to 0.06 ATM.

The heating units apply a small amount of heat to the shelves in the chamber, causing the ice to change phase. Since the pressure in the chamber is so low, the ice turns directly into water vapour, which leaves the freeze-drying chamber, and flows past the freezing coil. The water vapour condenses onto the freezing coil in the form of solid ice, in the same way that water condenses as frost on a cold day.

H. The process continues for many hours (even days) while the material gradually dries out. This time is necessary to avoid overheating, which might affect the structure of the material. Once it has dried sufficiently, it is sealed in a moisture-free package. As long as the package is secure, the material can sit on a shelf for years and years without degrading, until it is restored to its original form with a little hot water. If everything works correctly, the material will go through the entire process almost completely unscathed.

I. In fact, freeze-drying, as a general concept, is not new but has been around for centuries. The ancient Incas of Peru used mountain peaks along the Andes as natural food preservers. The extremely cold temperatures and low pressure at those high altitudes prevented food from spoiling in the same basic way as a modern freeze-drying machine and a freezer.

Questions 1-5

Instructions to follow

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

Uses of freeze-drying:

– food preservation

– easy ……1…… of food items

– long-term storage of ……2…… and biological samples

– preservation of precious ……3……

Freeze-drying

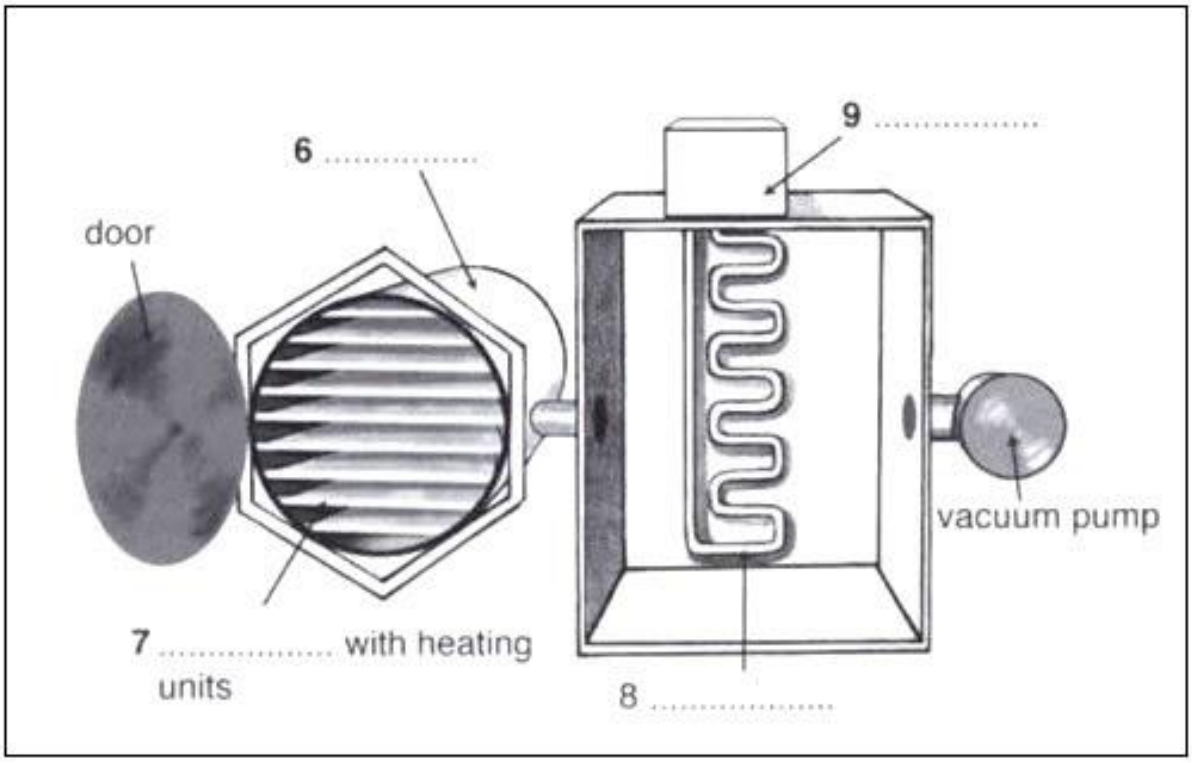
– is based on process of ……4…… is more efficient than ……5……

Questions 6-9

Instructions to follow

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

A simplified freeze-drying machine



6 _____

7 _____

8 _____

9 _____

Questions 10-13

Instructions to follow

- Choose NO MORE THAN THREE WORDS AND/OR A NUMBER from the passage for each answer.

Freeze-drying prevents food from going bad by stopping the activity of microorganisms or ……10…….. Its advantages are that the food tastes and feels the same as the original because both the ……11…….. and structure are preserved. The process is carried out slowly in order to ensure that …….. does not take place. The people of one ancient mountain civilisation were able to use this method of food preservation because the conditions needed were present at ……13…… .

Section 2

Space Flight Tourism

Falcon 1's successful launch on 28th of September was an outstanding achievement for the fledgeling space tourism industry. When a rocket made by Space X in Hawthorne, California, reached an orbit of 500 kilometres from the Earth, it became possible for privately developed rocket too.

Two days after the launch, Virgin Galactic started a business with the US National Oceanic and Atmospheric Administration which will be accepted by US scientists as a way of researching climate change using a spacecraft.

No doubt the civilian space flight industry is an exciting area and this was apparent at the International Aeronautical Congress in Glasgow last month. It displayed slick promotional videos, and models of the "Nearly Ready" spacecraft in orbit to the people who would be investing money in the project.

However, in spite of increasing confidence, it is also necessary to be cautious: can a civilian spacecraft be safe like holiday airlines? Gerardine Goh, a lawyer at DLR, the German Aerospace Centre in Bonn and a member of Germany's delegation to the UN's Office of Outer Space Affairs reported that as it is not global, there need to be enforceable regulations in place to guarantee the safety of a civilian spacecraft. She said, "Ships should be equipped to be seaworthy, aircraft should be equipped to be airworthy but there is no legislation in place to ensure that a spacecraft is spaceworthy."

At the International Association for the Advancement of Space Safety, Goh is planning to press

the UN to force civilian space operators to warrant which spacecraft are designed and built to minimum safety standards. She says, “Mass commercial space flight does not currently have international safety regulations.” and “We deeply need a UN treaty which offers us this.”

One way companies are planning to transport tourists into space is with a “mother ship”, an aircraft which carries a rocket at an altitude of 16 kilometres before launching it, says Goh. “But with launching the aircraft, the ICAO’s air safety standards only apply to the mother ship and the rocket capsule until they are separated. After that, we do not have any safety standards for the capsule itself. It is a critical problem.”

From 16 kilometres to the Karman line, the point of 100 kilometres up where space is considered to start, the rocket will be travelling within a legal vacuum. Here, lawyers cannot agree on whether it is a plane or a rocket. Some insist that if you are in a well-equipped functioning rocket, more strict safety measures should try to be incorporated into the spaceship’s design.

The other aspects of the UN’s 1967 treaty for outer space exploration may be discussed again if civilian space flight turns out to be successful. For example, countries must consider how to rescue and repatriate astronauts crashing or landing in their land. Also, governments have to decide if the money generated by the space flight industry will be enough to cover the cost of rescuing space tourists.

Civilian space flight companies are very aware of the risks in this field as they have already had the experience of dealing with a tragedy. Unfortunately, three engineers were killed and another three were severely injured in 2007, when nitrous oxide rocket fuel suddenly exploded during fuel flow tests at a Scaled Composites facility in Mojave, California. The company is establishing WhiteKnightTwo, a carrier aircraft and SpaceShip Two, a six-seater rocket for Virgin Galactic. The facility was regulated by California’s health and safety regulator, and it has now modified its

technology to decrease the risks.

However, space flight's dangers are far from just fuel issues. According to Laurent Gathier of Dassault Aviation developing the VSH of a rocket powered sub-orbital tourist space plane, other critical safety factors are with depressurization risks, passengers close to the engine and the activities of flight trajectories including cosmic ray shielding.

Civilian space companies should incorporate the safety features into their designs. For instance, the VSH will equip an ejector seat for all tourists and staff. It is a device for bailing out of the spacecraft with a default of 40,000 feet (12 kilometres).

Goh's vision is essentially against the Federal Aviation Administration Office of Commercial Space Transportation (AST) and does not have any schemes to regulate civilian space flight safety until 2012. The Commercial Space Launch Amendments Act of 2004 mentions that George Nield as AST chief said, the civilian space flight regulation must not "stifle" the developing technologies with inconvenient rules.

Before launching, a hands-off approach to civilian space flight could be quite risky. Goh said, "A lack of safety standards and a lot of operational burdens will leave a commercial space flight in the dangerous activity categories in terms of the insurance." It means insurance costs will be very high. Critics who are developing safety standards also insist that the "at-your-own-risk" mentality that is applied to risky sports like scuba-diving should also be applied to civilian space flight.

Questions 14-20

Instructions to follow

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

On 28 September the emerging space tourism industry was enormous. In Hawthorne, California, a rocket was erected by ……14…… Climate change was monitored by ……15…… in the US National Oceanic and Atmospheric Administration using its spacecraft. In Glasgow, at the International Aeronautical meeting, it is apparent that the civilian space flight industry is growing, as it showed the ……16…… spacecraft which promised sub-orbital flights. Although developing confirmation, regulation is clear to guarantee ……17…… A method for space business is cooperating with a ……18…… conveyable at 16 kilometres in the skies. From 16 kilometres to 100 kilometres' travelling may be available, but lawyers definitely cannot agree with whether it is a ……19…… or a rocket. ……20…… need to be revisited if civilian space flight proves successful.

Questions 21-26

Instructions to follow

- Complete each sentence with the correct ending A-I below.

21 Civilian space flight companies

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

22 Laurent Gathier

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

23 VSH devised for a safety

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

24 AST chief George Nield

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

25 Insurance costs

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

26 Critics

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

A assisted some minimum safety standards may prevent that.

B emphasised a civilian space flight must not be under a severe regulation for technical advancement.

C hardly need a reminder of the danger when considering past experiences.

D will protect a commercial space flight.

E try to develop a module of safety regulations applied to civilian space flight.

F. made up for an ejector seat for tourists and the crew in case of a craft emergency in the skies.

G. indicated the main safety problems were with passengers' proximity to the powerful engine.

H believed that scuba-diving should be applied to civilian space flight.

I. kept costs stratospheric.

Section 3

Honey Bees in Trouble

Can native pollinators fill the gap?

A. Recently, ominous headlines have described a mysterious ailment, colony collapse disorder (CCD), that is wiping out the honeybees that pollinate many crops. Without honeybees, the story goes, fields will be sterile, economies will collapse, and food will be scarce.

B. But what few accounts acknowledge is that what's at risk is not itself a natural state of affairs. For one thing, in the United States, where CCD was first reported and has had its greatest impacts, honeybees are not a native species. Pollination in modern agriculture isn't alchemy, it's industry. The total number of hives involved in the U.S. pollination industry has been somewhere between 2.5 million and 3 million in recent years. Meanwhile, American farmers began using large quantities of organophosphate insecticides, planted large-scale crop monocultures, and adopted "clean farming" practices that scrubbed native vegetation from field margins and roadsides.

These practices killed many native bees outright – they're as vulnerable to insecticides as an agricultural pest – and made the agricultural landscape inhospitable to those that remained. Concern about these practices and their effects on pollinators isn't new – in her 1962 ecological alarm cry Silent Spring, Rachel Carson warned of a 'Fruitless Fall' that could result from the disappearance of insect pollinators.

C. If that 'Fruitless Fall' has not-yet-occurred, it may be largely thanks to the honeybee, which farmers turned to as the ability of wild pollinators to service crops declined. The honeybee has been semi-domesticated since the time of the ancient Egyptians, but it wasn't just familiarity that

determined this choice: the bees' biology is in many ways suited to the kind of agricultural system that was emerging.

For example, honeybee hives can be closed up and moved out of the way when pesticides are applied to a field. The bees are generalist pollinators, so they can be used to pollinate many different crops. And although they are not the most efficient pollinator of every crop, honeybees have strength in numbers, with 20,000 to 100,000 bees living in a single hive. "Without a doubt, if there was one bee you wanted for agriculture, it would be the honeybee," says Jim Cane, of the U.S. Department of Agriculture.

The honeybee, in other words, has become a crucial cog in the modern system of industrial agriculture. That system delivers more food, and more kinds of it, to more places, more cheaply than ever before. But that system is also vulnerable, because making a farm field into the photosynthetic equivalent of a factory floor, and pollination into a series of continent-long assembly lines, also leaches out some of the resilience characteristics of natural ecosystems.

D. Breno Freitas, an agronomist, pointed out that in nature such a high degree of specialization usually is a very dangerous game: it works well while all the rest is in equilibrium, but runs quickly to extinction at the least disbalance. In effect, by developing an agricultural system that is heavily reliant on a single pollinator species, we humans have become riskily overspecialized. And when the human-honeybee relationship is disrupted, as it has been by colony collapse disorder, the vulnerability of that agricultural system begins to become clear.

E. In fact, a few wild bees are already being successfully managed for crop pollination. "The problem is trying to provide native bees inadequate numbers on a reliable basis in a fairly short number of years in order to service the crop," Jim Cane says. "You're talking millions of flowers per acre in a two-to three-week time frame, or less, for a lot of crops." On the other hand, native

bees can be much more efficient pollinators of certain crops than honeybees, so you don't need as many to do the job.

For example, about 750 blue orchard bees (Osmia lignaria) can pollinate a hectare of apples or almonds, a task that would require roughly 50,000 to 150,000 honeybees. There are bee tinkerers engaged in similar work in many corners of the world. In Brazil, Breno Freitas has found that Centris tarsata, the native pollinator of wild cashew, can survive in commercial cashew orchards if growers provide a source of floral oils, such as by interplanting their cashew trees with a Caribbean cherry.

F. In certain places, native bees may already be doing more than they're getting credit for. Ecologist Rachael Winfree recently led a team that looked at pollination of four summer crops (tomato, watermelon, peppers, and muskmelon) at 29 farms in the region of New Jersey and Pennsylvania. Winfree's team identified 54 species of wild bees that visited these crops, and found that wild bees were the most important pollinators in the system: even though managed honeybees were present on many of the farms, wild bees were responsible for 62 percent of flower visits in the study.

In another study focusing specifically on watermelon, Winfree and her colleagues calculated that native bees alone could provide sufficient pollination at 90 percent of the 23 farms studied. By contrast, honeybees alone could provide sufficient pollination at only 78 percent of farms.

G. "The region I work in is not typical of the way most food is produced," Winfree admits. In the Delaware Valley, most farms and farm fields are relatively small, each farmer typically grows a variety of crops, and farms are interspersed with suburbs and other types of land use which means there are opportunities for homeowners to get involved in bee conservation, too.
The landscape is a bee-friendly patchwork that provides a variety of nesting habitat and floral

resources distributed among different kinds of crops, weedy field margins, fallow fields, suburban neighborhoods, and semi-natural habitat like old woodlots, all at a relatively small scale. In other words, “pollinator-friendly” farming practices would not only aid pollination of agricultural crops, but also serve as a key element in the overall conservation strategy for wild pollinators, and often aid other wild species as well.

H. Of course, not all farmers will be able to implement all of these practices. And researchers are suggesting a shift to a kind of polyglot agricultural system. For some small-scale farms, native bees may indeed be all that’s needed. For larger operations, a suite of managed bees – with honeybees filling the generalist role and other, native bees pollinating specific crops – could be augmented by free pollination services from resurgent wild pollinators. In other words, they’re saying, we still have an opportunity to replace a risky monoculture with something diverse, resilient, and robust.

Questions 27-30

Instructions to follow

- Do the following statements agree with the claims of the writer in Reading Passage 3?
- 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

27 In the United States, farmers use honeybees on a large scale over the past few years.

28 Cleaning farming practices would be harmful to farmers’ health.

29 The blue orchard bee is the most efficient pollinator among native bees for every crop.

30 It is beneficial to other local creatures to protect native bees.

Questions 31-35

Instructions to follow

- Choose the correct letter, A, B, C or D.

31 The example of the "Fruitless Fall" underlines the writer's point about

A needs for using pesticides.
B impacts of losing insect pollinators.
C vulnerabilities of native bees.
D benefits in building more pollination industries.

32 Why can honey bees adapt to the modern agricultural system?

A the honeybees can pollinate more crops efficiently
B The bees are semi-domesticated since ancient times.
C Honeybee hives can be protected away from pesticides.
D The ability of wild pollinators using to serve crops declines.

33 The writer mentions factories and assembly lines to illustrate

A one drawback of the industrialised agricultural system.
B A low cost in modern agriculture.
C The role of honeybees in pollination.
D what a high yield of industrial agriculture.

34. In the 6th paragraph, Winfree's experiment proves that

A honeybee can pollinate various crops.
B There are many types of wild bees as the pollinators.
C the wild bees can increase the yield to a higher percentage
D

wild bees work more efficiently as a pollinator than honey bees in certain cases

A

35. What does the writer want to suggest in the last paragraph?

- A the importance of honey bees in pollination
- B adoption of different bees in various sizes of the agricultural system
- C the comparison between the intensive and the rarefied agricultural system
- D the reason why farmers can rely on native pollinators

Questions 36-40

Instructions to follow

- Complete each sentence with the correct ending, A-F, below.

B 6. The headline of colony collapse disorder states that

A B C D E F

37 Viewpoints of Freitas manifest that

A B C D E F

38 Examples of blue orchard bees have shown that

A B C D E F

39 Centris tarsata is mentioned to exemplify that

A B C D E F

40 One finding of the research in Delaware Valley is that

A B C D E F

A native pollinators can survive when a specific plant is supplied.

B it would cause severe consequences both to commerce and agriculture.

C honey bees can not be bred.

D Some agricultural landscapes are favorable in supporting wild bees.

E a large scale of honey bees are needed to pollinate.

A. an agricultural system is fragile when relying on a single pollinator

IELTS Reading Test 10

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

South pole adventurer

FOR a few weeks in January 1912, Antarctica was full of explorers. Norwegian Roald Amundsen had reached the South Pole on 14 December and was speeding back to the coast. On 17 January, Robert Scott and the men of the British Antarctic expedition had arrived at the pole to find they had been beaten to it. Just then, a third man arrived; Japanese explorer Nobu Shirase. However, his part in one of the greatest adventure stories of the 20th century is hardly known outside his own country, even by fellow explorers. Yet as Scott was nearing the pole and with the rest of the world still unaware of Amundsen's triumph, Shirase and his team sailed into Antarctica's Bay of Whales in the smallest ship ever to try its luck in these dangerous waters.

Since boyhood Shirase had dreamed of becoming a polar explorer. Like Amundsen, he initially set his sights on the North Pole. But after the American Robert Peary claimed to have reached it in 1909, both men hastily altered their plans. Instead they would aim for the last big prize: the South Pole. In January 1910, Shirase put his plans before Japanese government officials,

promising to raise the flag at the South Pole within three years. For many of them, the question wasn't could he do it but why would it be worth doing? 15 years earlier the International Geographical Congress had said that as the last unknown continent the Antarctic offered the chance to add to knowledge in almost every branch of science. So, like the British, Shirase presented his expedition as a search for knowledge: he would bring back fossils, make meteorological measurements and explore unknown parts of the continent.

The response from the government was cool, however, Shirase struggled to raise funds. Fortunately, a few months later, Japan's former prime minister Shigenobu Okuma came to Shirase's rescue. With Okuma's backing, Shirase got together just enough money to buy and equip a small ship. He eventually acquired a scientist, too, called Terutaro Takeda. At the end of November 1910, his ship the Kainan Maru finally left Tokyo with 27 men and 28 Siberian dogs on board. Before leaving, Shirase confidently outlined his plans to the media. He would sail to New Zealand, then reach Antarctica in February, during the southern summer, and then proceed to the pole the following spring. This was not to be, however. Bad weather delayed the expedition and they didn't reach New Zealand until 8 February; Amundsen and Scott had already been in Antarctica for a month, preparing for winter. In New Zealand local reporters were astonished: the ship was half the size of Amundsen's ship. True, it was reinforced with iron plate and extra wood, but the ship had only the feeblest engine to help force its way through ice. Few doubted Shirase's courage, but most reckoned the expedition to be ill- prepared as the Japanese had only

lightweight sledges for transport across the ice, made of bamboo and wood.

But Shirase's biggest challenge was time. Antarctica is only accessible by sea for a few weeks in summer and expeditions usually aimed to arrive in January or February. 'Even with their determination and daring, our Japanese friends are running it rather fine,' wrote local reporters. Nevertheless, on 11 February the Kainan Maru left New Zealand and sailed straight into the worst weather the captain had ever seen. Then, on 6 March, they approached the coastline of Antarctica's Ross Sea, looking for a place to land. The ice began to close in, threatening to trap them for the winter, an experience no one was likely to survive. With a remarkable piece of seamanship, the captain steered the ship out of the ice and turned north. They would have to wait out the winter in a warmer climate.

A year later than planned, Shirase and six men finally reached Antarctica. Catching up with Scott or Amundsen was out of the question and he had said he would stick to science this time. Yet Shirase still felt the pull of the pole and eventually decided he would head southward to experience the thrills and hardships of polar exploration he had always dreamed of. With provisions for 20 days, he and four men would see how far they could get.

Shirase set off on 20 January 1912 with Takeda and two dog handlers, leaving two men at the edge of the ice shelf to make meteorological measurements. For a week they struggled through

one blizzard after another, holding up in their tents during the worst of the weather. The temperature fell to -25°C, and frostbite claimed some of the dogs. On 26 January, Shirase estimated there were enough provisions to continue for two more days. Two days later, he announced it was time to turn back. Takeda calculated they had reached 80° 5 south and had travelled 250 kilometres. The men hoisted the Japanese flag.

On 3 February, all the men were heading home. The ship reached Tokyo in June 1912 – and Shirase was greeted like a hero despite the fact that he never reached the pole. Nor did he contribute much to science – but then nor did Amundsen, whose only interest was in being first to the pole. Yet Shirase's expedition was heroic. They travelled beyond 80° south, one of only four teams to have gone so far south at the time. Furthermore, they did it all without the advantages of the other teams and with no previous experience.

Questions 1-8

Instructions to follow

- 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 Shirase's trip to the South Pole is well-known to other explorers.

2 Since Shirase arrived in Antarctica, smaller ships have also made the journey.

3 Shirase's original ambition was to travel to the North Pole.

4 Some Japanese officials thought Shirase's intention to travel to the South Pole was pointless.

5 The British team announced their decision to carry out scientific research in Antarctica before Shirase.

6 Shirase found it easy to raise the money he needed for his trip to the South Pole.

B. A previous prime minister of Japan persuaded a scientist to go with Shirase.

C. The weather that slowed down Shirase's progress to New Zealand was unusually bad for the season.

Questions 9-13

Instructions to follow

- Choose the correct letter; A, B, C or D.

9 When reporters in New Zealand met Shirase, they were

A ◯ concerned about the quality of his equipment.
B ◯ impressed with the design of his ship.
C ◯ certain he was unaware of the dangers ahead.
D ◯ surprised by the bravery he demonstrated.

10 What are we told about the captain of the Kainan Maru in the fourth paragraph?

A ◯ He had given Shirase some poor advice.

B His skill at sailing saved the boat and crew.

C He refused to listen to the warnings of others.

D He was originally confident they could reach Antarctica.

11 After Shirase finally reached Antarctica he realised that

A He was unsure of the direction he should follow.

B he would have to give up on fulfilling his personal ambition.

C he might not have enough food to get to the South Pole.

D he still wanted to compete in the race against the other teams.

12. What is the writer doing in the Sixth paragraph ?

A criticising a decision concerning scientific research.

B explaining why a particular mistake had occurred.

C describing the conditions that the expedition faced.

D rejecting the idea that Shirase was poorly prepared.

13 What is the writer's main point in the final paragraph?

A Considering the problems Shirase had to deal with, his achievement was in credible.

B In Japan, the reaction to Shirase's adventure in Antarctica came as a surprise to him.

C It was obvious that Amundsen would receive more attention as an explorer than Shirase.

D Shirase had achieved more on the Antarctic expedition than even he had expected.

Section 2

The Rise of Agribots

The next time you stand at the supermarket checkout, spare a thought for the farmers who helped fill your shopping basket as life is hard for them right now. This, in turn, inevitably means bigger grocery bills for consumers, and greater hardship for the millions in countries where food shortages are a matter of life and death. Worse, studies suggest that the world will need twice as much food by 2050. Yet while farmers must squeeze more out of the land, they must also address the necessity of reducing their impact on the soil, waterways and atmosphere. All this means rethinking how agriculture is practised, and taking automation to a whole new level. On the new model farms of the future, precision will be key. Why dose a whole field with chemicals if you can spray only where they are needed? Each plant could get exactly the right amount of everything, no more or less, an approach that could slash chemical use and improve yields in one move. But this is easier said than done; the largest farms in Europe and the U.S. can cover thousands of acres. That's why automation is key to precision farming. Specifically, say agricultural engineers, precision farming needs robot farmers.

One day, we might see fields with 'agribots' (agricultural robots) that can identify individual seedlings and encourage them along with drops of fertilizer. Other machines would distinguish problem weeds from crops and eliminate them with shots from high-power lasers or a microdot of pesticide. These machines will also be able to identify and harvest all kinds of vegetables. More than a century of mechanization has already turned farming into an industrial-scale activity in much of the world, with farms that grow cereals being the most heavily automated.

But a variety of other crops, including oranges and tomatoes destined to become processed foods, are also picked mechanically, albeit to a slightly lesser extent. Yet the next wave of

autonomous farm machinery is already at work. You probably haven't even noticed, for these robots are disguised as tractors. Many are self-steering, use GPS to cross a field, and can even 'talk' to their implements – a plough or sprayer, for example. And the implements can talk back, telling the tractor that it's going too fast or needs to move to the left. This kind of communication is also being developed in other farm vehicles. A new system allows a combine harvester, say, to send a call over to a tractor- trailer so the driver can unload the grain as and when necessary.

However, when fully autonomous systems take to the field, they'll look nothing like tractors. With their enormous size and weight, today's farm machines have significant downsides: they compact the soil, reducing porosity and killing beneficial life, meaning crops don't grow so well. Simon Blackmore, who researches agricultural technology at Harper Adams University College in England believes that fleets of lightweight autonomous robots have the potential to solve this problem and that replacing brute force with precision is key. 'A seed only needs one cubic centimeter of soil to grow. If we cultivate just that we only put tiny amounts of energy in and the plants still grow nicely.' There is another reason why automation may be the way forward according to Eldert van Henten, a robotics researcher at Wageningen University in the Netherlands. 'While the population is growing and needs to be fed, a rapidly shrinking number of people are willing to work in agriculture,' he points out. Other researchers such as Linda Calvin, an economist at the U.S. Department of Agriculture, and Philip Martin at the University of California, Davis, have studied trends in mechanization to predict how US farms might fare. Calvin and Martin have observed how rising employment costs have led to the adoption of labour-saving farm technology in the past, citing the raisin industry as an example. In 2000, a bumper harvest crashed prices and, with profits squeezed, farmers looked for a solution. With labour one of their biggest costs – 42 percent of production expenses on U.S. farms, on average – they started using a mechanical harvester adapted from a machine used by wine makers. By 2007, almost half of California's raisins were mechanically harvested and a labour force once numbering 50,000 had shrunk to 30,000.

As well as having an impact on the job market, the widespread adoption of agribots might bring changes at the supermarket. Lewis Holloway, who studies agriculture at the University of Hull, UK, says that robotic milking is likely to influence the genetics of dairy herds as farmers opt for 'robot-friendly' cows, with udder shape, and even attitudes, suited to automated milking. Similarly, he says, it's conceivable that agribots could influence what fruit or vegetable varieties get to the shops, since farmers may prefer to grow those with, say, leaf shapes that are easier for their robots to discriminate from weeds. Almost inevitably, these machines will eventually alter the landscape, too. The real tipping point for robot agriculture will come when farms are being designed with agribots in mind, says Salah Sukkarieh, a robotics researcher at the Australian Center for Field Robotics, Sydney. This could mean a return to smaller fields, with crops planted in grids rather than rows and fruit trees pruned into two-dimensional shapes to make harvesting easier. This alien terrain tended by robots is still a while away, he says 'but it will happen.'

Questions 14-17

Instructions to follow

- Do the following statements agree with the claims of the writer in Reading Passage 2? In boxes 14-17 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

14 Governments should do more to ensure that food is generally affordable.

15 Farmers need to reduce the harm they do to the environmentally.

16 In the future, farmers are likely to increase their dependency on chemicals.

17 Farms in Europe and the US may find it hard to adapt to precision farming.

Questions 18-21

Instructions to follow

- Complete the sentences below. Choose ONE WORD ONLY from the passage.

18 In the future, agribots will provide……to young plants.

19 Some machines will use chemicals or……to get rid of unwanted plants.

20 It is the production of……which currently uses most machinery on farms.

21 ……between machines such as tractors is making farming more efficient.

Questions 22-26

Instructions to follow

- Look at the following researchers (Questions 22-26) and the list of statements below. Match each researcher with the correct statement, A-H.

22 Simon Blackmore

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○

23 Eldert van Henten

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○

24 Linda Calvin and Philip Martin

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○

25 Lewis Holloway

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○

26 Salah Sukkarieh

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○

List of Findings

A The use of automation might impact on the development of particular animal and plant species.

B We need to consider the effect on employment that increased automation will have.

C We need machines of the future to be exact, not more powerful.

D As farming becomes more automated the appearance of farmland will change.

E New machinery may require more investment than certain farmers can afford.

F There is a shortage of employees in the farming industry.

G There are limits to the environmental benefits of automation.

H Economic factors are often the driving force behind the development of machinery.

Section 3

Homer's Literary Legacy

A. Until the last tick of history's clock, cultural transmission meant oral transmission and poetry, passed from mouth to ear, was the principal medium of moving information across space and from one generation to the next. Oral poetry was not simply a way of telling lovely or important stories, or of flexing the imagination. It was, argues the classicist Eric Havelock, a "massive repository of useful knowledge, a sort of encyclopedia of ethics, politics, history and technology which the effective citizen was required to learn as the core of his educational equipment". The great oral works transmitted a shared cultural heritage, held in common not on bookshelves, but in brains. In India, an entire class of priests was charged with memorizing the Vedas with perfect fidelity. In pre-Islamic Arabia, people known as Rawis were often attached to poets as official memorizers.The Buddha's teachings were passed down in an unbroken chain of oral tradition for four centuries until they were committed to writing in Sri Lanka in the first century B.C.

B. The most famous of the Western tradition's oral works, and the first to have been systematically studied, were Homer's Odyssey and Iliad. These two poems – possibly the first to have been written down in the Greek alphabet – had long been held up as literary archetypes. However, even as they were celebrated as the models to which all literature should aspire, Homer's masterworks had also long been the source of scholarly unease. The earliest modern critics sensed that they were somehow qualitatively different from everything that came after – even a little strange. For one thing, both poems were oddly repetitive in the way they referred to characters. Odysseus was always "clever Odysseus". Dawn was always "rosy-fingered". Why would someone write that? Sometimes the epithets seemed completely off-key. Why call the murderer of Agamemnon "blameless Aegisthos"? Why refer to "swift-footed Achilles" even when he was sitting down? Or to "laughing Aphrodite" even when she was in tears? In terms of both

structure and theme, the Odyssey and Iliad were also oddly formulaic, to the point of predictability. The same narrative units – gathering armies, heroic shields, challenges between rivals – pop up again and again, only with different characters and different circumstances. In the context of such finely spun, deliberate masterpieces, these quirks* seemed hard to explain.

C. At the heart of the unease about these earliest works of literature were two fundamental questions: first, how could Greek literature have been born ex nihilo* with two masterpieces? Surely a few less perfect stories must have come before, and yet these two were among the first on record. And second, who exactly was their author? Or was it authors? There were no historical records of Homer, and no trustworthy biography of the man exists beyond a few self-referential hints embedded in the texts themselves.

D. Jean-Jacques Rousseau was one of the first modern critics to suggest that Homer might not have been an author in the contemporary sense of a single person who sat down and wrote a story and then published it for others to read. In his 1781 Essay on the Origin of Languages, the Swiss philosopher suggested that the Odyssey and Iliad might have been "written only in men's memories. Somewhat later they were laboriously collected in writing"- though that was about as far as his enquiry into the matter went.

E. In 1795, the German philologist Friedrich August Wolf argued for the first time that not only were Homer's works not written down by Homer, but they weren't even by Homer. They were, rather, a loose collection of songs transmitted by generations of Greek bards*, and only redacted* in their present form at some later date. In 1920, an eighteen-year-old scholar named Milman Parry took up the question of Homeric authorship as his Master's thesis at the University of California, Berkeley. He suggested that the reason Homer's epics seemed unlike other literature was because they were unlike other literature. Parry had discovered what Wood and Wolf had missed: the evidence that the poems had been transmitted orally was right there in the

text itself. All those stylistic quirks, including the formulaic and recurring plot elements and the bizarrely repetitive epithets -"clever Odysseus"and "gray-eyed Athena"- that had always perplexed readers were actually like thumbprints left by a potter: material evidence of how the poems had been crafted. They were mnemonic* aids that helped the bard(s) fit the meter and pattern of the line, and remember the essence of the poems.

F. The greatest author of antiquity was actually, Parry argued, just "one of a long tradition of oral poets that… composed wholly without the aid of writing". Parry realised that if you were setting out to create memorable poems, the Odyssey and the Iliad were exactly the kind of poems you'd create. It's said that cliches* are the worst sin a writer can commit, but to an oral bard, they were essential. The very reason that cliches so easily seep into our speech and writing – their insidious memorability – is exactly why they played such an important role in oral storytelling.The principles that the oral bards discovered as they sharpened their stories through telling and retelling were the same mnemonic principles that psychologists rediscovered when they began conducting their first scientific experiments on memory around the turn of the twentieth century. Words that rhyme are much more memorable than words that don't, and concrete nouns are easier to remember than abstract ones. Finding patterns and structure in information is how our brains extract meaning from the world, and putting words to music and rhyme is a way of adding extra levels of pattern and structure to language.

Questions 27-32

Instructions to follow

- Reading Passage 3 has six paragraphs, A-F.
- Which paragraph contains the following information?

27 the claim that the Odyssey and Iliad were not poems in their original form.

28

28. a theory involving the reinterpretation of the term 'author'

29 references to the fact that little is known about Homer's life

30 a comparison between the construction of Homer's poems and another art form

31 examples of the kinds of people employed to recall language

32 doubts regarding Homer's apparently inappropriate descriptions

Questions 33-34

Instructions to follow

- Choose **TWO** letters, A-E.

Which **TWO** of these points are made by the writer of the text about the Odyssey and the Iliad?

33 _____

A ○ B ○ C ○ D ○ E ○

34 _____

A ○ B ○ C ○ D ○ E ○

A They are sometimes historically inaccurate.

B It is uncertain which century they were written in.

C Their content is very similar.

D Later writers referred to them as ideal examples of writing.

E There are stylistic differences between them.

Questions 35-36

Instructions to follow

- Choose **TWO** letters, A-E.

Which **TWO** of the following theories does the writer of the text refer to?

A 5_____

A ○ B ○ C ○ D ○ E ○

B 6_____

A ○ B ○ C ○ D ○ E ○

A Homer wrote his work during a period of captivity.

B Neither the Odyssey nor the Iliad were written by Homer.

C Homer created the Odyssey and Iliad without writing them down.

D Homer may have suffered from a failing memory in later life.

E The oral and written versions of Homer's work may not be identical.

Questions 37-40

Instructions to follow

- Complete the summary below. Choose **ONE WORD ONLY** from the passage for each answer.

The importance of the spoken word and how words are remembered

Spoken poetry was once the means by which each ……37…….. of a particular culture or community could pass on its knowledge. Indeed, it has been suggested that it was the duty of a ……38…… to know poetry so they would be informed about subjects such as politics and history.

Psychologists now know that when people are trying to remember information, they may find it difficult to remember words that express ……39…… ideas. It is easier to remember words which sound similar or go together with……40……

IELTS Reading Test 11

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Human Interference and Finches

A. Today, the quest continues. On Daphne Major-one of the most desolate of the Galápagos Islands, an uninhabited volcanic cone where cacti and shrubs seldom grow higher than a researcher's knee-Peter and Rosemary Grant have spent more than three decades watching Darwin's finch respond to the challenges of storms, drought and competition for food Biologists at Princeton University, the Grants know and recognize many of the individual birds on the island and can trace the birds' lineages hack through time. They have witnessed Darwin's principle in action again and again, over many generations of finches.

B. The Grants' most dramatic insights have come from watching the evolving bill of the medium ground finch. The plumage of this sparrow-sized bird ranges from dull brown to jet black. At first glance, it may not seem particularly striking, but among scientists who study evolutionary biology, the medium ground finch is a superstar. Its bill is a middling example in the array of shapes and sizes found among Galápagos finches: heftier than that of the small ground finch, which specializes in eating small, soft seeds, but petite compared to that of the large ground finch, an expert at cracking and devouring big, hard seeds.

C. When the Grants began their study in the 1970s, only two species of finch lived on Daphne Major, the medium ground finch and the cactus finch. The island is so small that the researchers were able to count and catalogue every bird. When a severe drought hit in 1977, the birds soon devoured the last of the small, easily eaten seeds. Smaller members of the medium ground finch population, lacking the bill strength to crack large seeds, died out.

D. Bill and body size are inherited traits, and the next generation had a high proportion of big-billed individuals. The Grants had documented natural selection at work-the same process that, over many millennia, directed the evolution of the Galápagos' 14 unique finch species, all descended from a common ancestor that reached the islands a few million years ago.

E. Eight years later, heavy rains brought by an El Nino transformed the normally meager vegetation on Daphne Major. Vines and other plants that in most years struggle for survival suddenly flourished, choking out the plants that provide large seeds to the finches. Small seeds came to dominate the food supply, and big birds with big bills died out at a higher rate than smaller ones. 'Natural selection is observable,' Rosemary Grant says. 'It happens when the environment changes. When local conditions reverse themselves, so does the direction of adaptation.

F. Recently, the Grants witnessed another form of natural selection acting on the medium ground finch: competition from bigger, stronger cousins. In 1982, a third finch, the large ground finch, came to live on Daphne Major. The stout bills of these birds resemble the business end of a crescent wrench. Their arrival was the first such colonization recorded on the Galápagos in nearly a century of scientific observation. 'We realized,' Peter Grant says, 'we had a very unusual and potentially important event to follow.' For 20 years, the large ground finch coexisted with the medium ground finch, which shared the supply of

large seeds with its bigger-billed relative. Then, in 2002 and 2003, another drought struck. None of the birds nested that year, and many died out. Medium ground finches with large bills, crowded out of feeding areas by the more powerful large ground finches, were hit particularly hard.

G. When wetter weather returned in 2004, and the finches nested again, the new generation of the medium ground finch was dominated by smaller birds with smaller bills, able to survive on smaller seeds. This situation, says Peter Grant, marked the first time that biologists have been able to follow the complete process of an evolutionary change due to competition between species and the strongest response to natural selection that he had seen in 33 years of tracking Galápagos finches.

H. On the inhabited island of Santa Cruz, just south of Daphne Major, Andrew Hendry of McGill University and Jeffrey Podos of the University of Massachusetts at Amherst have discovered a new, man-made twist in finch evolution. Their study focused on birds living near the Academy Bay research station, on the fringe of the town of Puerto Ayora. The human population of the area has been growing fast-from 900 people in 1974 to 9,582 in 2001. Today Puerto Ayora is full of hotels and mai tai bars,' Hendry says. 'People have taken this extremely arid place and tried to turn it into a Caribbean resort.'

I. Academy Bay records dating back to the early 1960s show that medium ground finches captured there had either small or large bills. Very few of the birds had mid-size bills. The finches appeared to be in the early stages of a new adaptive radiation: If the trend continued, the medium ground finch on Santa Cruz could split into two distinct subspecies, specializing in different types of seeds. But in the late 1960s and early 70s, medium ground finches with medium-sized bills began to thrive at Academy Bay along with small and large-billed birds. The booming human population had introduced new food sources, including exotic plants and bird feeding stations stocked with rice. Billsize,

once critical to the finches' survival, no longer made any difference. 'Now an intermediate bill can do fine,' Hendry says.

J. At a control site distant from Puerto Ayora, and relatively untouched by humans, the medium ground finch population remains split between large- and small-billed birds. On undisturbed parts of Santa Cruz, there is no ecological niche for a middling medium ground finch, and the birds continue to diversify. In town, though there are still many finches, once-distinct populations are merging.

K. The finches of Santa Cruz demonstrate a subtle process in which human meddling can stop evolution in its tracks, ending the formation of new species. In a time when global biodiversity continues its downhill slide, Darwin's finches have yet another unexpected lesson to teach. 'If we hope to regain some of the diversity that's already been lost/ Hendry says, 'we need to protect not just existing creatures, but also the processes that drive the origin of new species.

Questions 1-4

Instructions to follow

- Complete the table below.
- Choose NO MORE THAN TWO WORDS from Reading Passage 1 for each answer.
- Write your answers in boxes 1-4 on your answer sheet.

Year	Climate	Finch's condition
1977	1	small-beak birds failing to survive, without the power to open 2 .....

1985	3 ..... brought by El Nino	big-beak birds dying out, with 4 ..... as the main food resource

Questions 5-8

Instructions to follow

- Complete the following summary of the paragraphs of Reading Passage 1.
- Using NO MORE THAN TWO WORDS from the Reading Passage for each answer.
- Write your answers in boxes 5-8 on your answer sheet.

On the remote island of Santa Cruz, Andrew Hendry and Jeffrey Podos conducted a study on reversal of 5 ..... due to human activity. In the early 1960s medium ground finches were found to have a larger or smaller beak. But in the late 1960s and early 70s, finches with 6 ..... flourished. The study speculates that it is due to the growing 7 ..... who brought in alien plants with intermediate-size seeds into the area and the birds ate 8 ..... sometimes.

Questions 9-13

Instructions to follow

- Do the following statements agree with the claims of the writer in Reading Passage 1?
  In boxes 9-13 on your answer sheet, write
  TRUE if the statement is true
  FALSE if the statement is false
  NOT GIVEN if the information is not given in the passage

9 Grants' discovery has questioned Darwin's theory.

10 The cactus finches are less affected by food than the medium ground finch.

11 In 2002 and 2003, all the birds were affected by the drought.

12 The discovery of Andrew Hendry and Jeffrey Podos was the same as that of the previous studies.

13 It is shown that the revolution in finches on Santa Cruz is likely a response to human intervention.

Section 2

Instructions to follow

- You should spend 20 minutes on Questions 14-26 which are based on Reading Passage 2.

Electronic Equipment's and Flight

Mobiles are barred, but passengers can lap away on their laptops to their hearts' content. Is one really safer than the other? In the US, a Congressional subcommittee grilled airline representatives and regulators about the issue last month. But the committee heard that using cellphones in planes may indeed pose a risk albeit a slight one. This would seem to vindicate the treatment of Manchester oil worker Neil Whitehouse, who was sentenced last summer to a year in jail by a British court for refusing to turn off his mobile phone on a flight home from Madrid. Although he was only typing a message to be sent on landing, not actually making a call, the court decided that hems putting the flight at risk.

A. The potential for problems is certainly there. Modern airliners are packed with electronic devices that control the plane and handle navigation and communications. Each has to meet stringent safeguards to make sure it doesn't emit radiation that would interfere with other devices in the plane-standards that passengers' personal electronic devices don't necessarily meet. Emissions from inside the plane could also interfere with sensitive antennae on the fixed exterior.

B. But despite running a number of studies, Boeing, Airbus and various government agencies haven't been able to find clear evidence of problems caused by personal electronic

devices, including mobile phones. “We’ve done our own studies. We’ve found cellphones actually have no impact on the navigation system,” says Maryanne Greczyn, a spokeswoman for Airbus Industries of North America in Herndon, Virginia, Not do they affect other critical systems, she says The only impact Airbus found? “Sometimes when a passenger is starting or finishing a phone call, the pilot hears a wry slight beep in the headset,” she says.

C. The best evidence yet of a problem comes from a report released this year by Britain’s Civil Aviation Authority. Its researchers generated simulated cellphone transmissions inside two Boeing aircraft. They concluded that the transmissions could create signals at a power and frequency that would not affect the latest equipment, but exceeded the safety threshold established in 1984 and might, therefore, affect some of the older equipment on board. This doesn’t mean “mission critical” equipment such as the navigation system and flight controls. But the devices that could be affected, such as smoke detectors and fuel level indicators, could still create serious problems for the flight crew if they malfunction.

D. Many planes still use equipment certified to the older standards, says Dan Hawkes, head of avionics at the CAA’s Safely Regulation Croup. The CAA study doesn’t prove the equipment will actually fail when subjected to the signals but does show there’s a danger. “We’ve taken some of the uncertainty out of these beliefs,” he says Another study later this year will see if the cellphone signals actually cause devices to fail.

E. In 1996, RTCA, a consultant hired by the Federal Aviation Administration in the US to conduct tests, determined that potential problems from personal electronic devices were “low”. Nevertheless, it recommended a ban on their use during “critical” periods of flight, such as take-off and landing. RTCA didn’t actually test cellphones, but nevertheless recommended their wholesale ban on flights, But if “better safe than sorry” is the current

policy, it's applied inconsistently, according to Marshall Cross, the chairman of Mega Wave Corporation, based in Boylston, Massachusetts. Why are cellphones outlawed when no one considers a ban on laptops? "It's like most things in life. The reason is a little bit technical, a little bit economic and a little bit political," says Cross.

F. The company wrote a report for the FAA in 1998 saying it is possible to build an on-board system that can detect dangerous signals from electronic devices. But Cross's personal conclusion is that mobile phones aren't the real threat. "You'd have to stretch things pretty far to figure out how a cellphone could interfere with a plane's systems," he says. Cellphones transmit in ranges of around 400, 800 or 1800 megahertz. Since no important piece of aircraft equipment operates at those frequencies, the possibility of interference is very low, Cross says. The use of Computers and electronic game systems is much more worrying, lie says. They can generate very strong signals at frequencies that could interfere with plane electronics, especially if a mouse is attached {the wire operates as an antenna or if their built-in shielding is somehow damaged. Some airlines are even planning to put sockets for laptops in seatbacks.

G. There's fairly convincing anecdotal evidence that some personal electronic devices have interfered with systems. Aircrew on one flight found that the autopilot was being disconnected, and narrowed the problem down to a passenger's portable computer. They could actually watch the autopilot disconnect when they switched the computer on. Boeing bought the computer, took it to the airline's labs and even tested it on an empty flight. But as with every other reported instance of interference, technicians were unable to replicate the problem.

H. Some engineers, however, such as Bruce Donham of Boeing, say that common sense suggests phones are more risky than laptops. "A device capable of producing a strong emission is not as safe as a device which does not have any intentional emission," lie says.

Nevertheless, many experts think it's illogical that cellphones are prohibited when computers aren't. Besides, the problem is more complicated than simply looking at power and frequency. In the air, the plane operates in a soup of electronic emissions, created by its own electronics and by ground-based radiation. Electronic devices in the cabin-especially those emitting a strong signal-can behave unpredictably, reinforcing other signals, for instance, or creating unforeseen harmonics that disrupt systems.

I. Despite the Congressional subcommittee hearings last month, no one seems to be working seriously on a technical solution that would allow passengers to use their phones. That's mostly because no one -besides cellphone users themselves-stands to gain a lot if the phones are allowed in the air. Even the cellphone companies don't want it. They are concerned that airborne signals could cause problems by flooding a number of the networks' base stations at once with the same signal. This effect, called bigfooting, happens because airborne cellphone signals tend to go to many base stations at once, unlike land calls which usually go to just one or two stations. In the US, even if FAA regulations didn't prohibit cellphones in the air, Federal Communications Commission regulations would.

J. Possible solutions might be to enhance airliners' electronic insulation or to fit detectors which warned flight staff when passenger devices were emitting dangerous signals. But cross complains that neither the FAA, the airlines nor the manufacturers are showing much interest in developing these. So, despite Congressional suspicions and the occasional irritated (or jailed) mobile user, the industry's "better safe than sorry" policy on mobile phones seems likely to continue. In the absence of firm evidence that the international airline industry is engaged in a vast conspiracy to overcharge its customers, a delayed phone call seems a small price to pay for even the tiniest reduction in the chances of a Plane Crash. But you'll still be allowed to use your personal computer during a flight. And while that remains the case, airlines can hardly claim that logic has prevailed.

Questions 14-17

Instructions to follow

- Complete the following summary of the paragraphs of Reading Passage.
- Using NO MORE THAN THREE WORDS from the Reading Passage for each answer.
- Write your answers in boxes 14-17 on your answer sheet.

The would-be risk surely exists, since the avionic systems on modern aircraft are used to manage flight and deal with 14..... Those devices are designed to meet the safety criteria which should be free from interrupting 15..... or interior emission. The personal use of a mobile phone may cause the sophisticated 16..... outside of the plane to dysfunction. Though definite interference in piloting devices has not been scientifically testified, the devices such as those which detect 17..... or indicate fuel load could be affected.

Questions 18-22

Instructions to follow

- Use the information in the passage to match the organization (listed A-E) with opinions or deeds below.
- Write the appropriate letters A-E in boxes 18-22 on your answer sheet.

A British Civil Aviation Authority

B Maryanne Greczyn

C RTCA

D Marshall Cross

E Boeing company

18 Mobile usages should be forbidden in specific flight.

A ○ B ○ C ○ D ○ E ○

19 Computers are more dangerous than cell phones.

A ○ B ○ C ○ D ○ E ○

20 Finding that the mobile phones pose little risk on flight's navigation devices.

A ○ B ○ C ○ D ○ E ○

21 The disruption of laptops is not as dangerous as cell phones.

A ○ B ○ C ○ D ○ E ○

22 The mobile signal may have an impact on earlier devices.

A ○ B ○ C ○ D ○ E ○

Questions 23-26

Instructions to follow

- Do the following statements agree with the information given in Reading Passage 2?
  In boxes 23-26 on your answer sheet, write
  TRUE if the statement is true
  FALSE if the statement is false
  NOT GIVEN if the information is not given in the passage

23 Almost all scientists accept that cellphones have higher emission than that of personal computers.

24 Some people believe that radio emission will interrupt the equipment on the plane.

25 The signal interference-detecting device has not yet been developed because they are in priority for neither administrative department nor offer an economic incentive.

26 FAA initialed open debate with Federal Communications Commission.

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 27-40 which are based on Reading Passage 3.

Resolving Conflict through Communication

Section A

As far back as Hippocrates's time (460-370 B.C.), people have tried to understand other people by characterizing them according to personality type or temperament. Hippocrates believed there were four different body fluids that influenced four basic types of temperament. His work was further developed 500 years later by Galen. These days there is any number of self-assessment tools that relate to the basic descriptions developed by Galen, although we no longer believe the source to be the types of body fluid that dominate our systems.

Section B

The values in self-assessments that help determine personality style. Learning styles, communication styles, conflict-handling styles, or other aspects of individuals is that they help depersonalize conflict in interpersonal relationships. The depersonalization occurs when you realize that others aren't trying to be difficult, but they need different or more information than you do. They're not intending to be rude: they are so focused on the task they forget about greeting people. They would like to work faster but not at the risk of damaging the relationships needed to get the job done. They understand there is a job to do. But it can only be done right with the appropriate information, which takes time to

collect. When used appropriately, understanding communication styles can help resolve conflict on teams. Very rarely are conflicts true personality issues. Usually, they are issues of style, information needs, or focus.

Section C

Hippocrates and later Galen determined there were four basic temperaments: sanguine, phlegmatic, melancholic and choleric. These descriptions were developed centuries ago and are still somewhat apt, although you could update the wording. In today's world, they translate into the four fairly common communication styles described below:

Section D

The sanguine person would be the expressive or spirited style of communication. These people speak in pictures. They invest a lot of emotion and energy in their communication and often speak quickly. Putting their whole body into it. They are easily sidetracked onto a story that may or may not illustrate the point they are trying to make. Because of their enthusiasm, they are great team motivators. They are concerned about people and relationships. Their high levels of energy can come on strong at times and their focus is usually on the bigger picture, which means they sometimes miss the details or the proper order of things. These people find conflict or differences of opinion invigorating and love to engage in a spirited discussion. They love change and are constantly looking for new and exciting adventures.

Section E

Tile phlegmatic person – cool and persevering – translates into the technical or systematic communication style. This style of communication is focused on facts and technical details. Phlegmatic people have an orderly methodical way of approaching tasks, and their focus is very much on the task, not on the people, emotions, or concerns that the

task may evoke. The focus is also more on the details necessary to accomplish a task. Sometimes the details overwhelm the big picture and focus needs to be brought back to the context of the task. People with this style think the facts should speak for themselves, and they are not as comfortable with conflict. They need time to adapt to change and need to understand both the logic of it and the steps involved.

Section F

Tile melancholic person who is softhearted and oriented toward doing things for others translates into the considerate or sympathetic communication style. A person with this communication style is focused on people and relationships. They are good listeners and do things for other people – sometimes to the detriment of getting things done for themselves. They want to solicit everyone's opinion and make sure everyone is comfortable with whatever is required to get the job done. At times this focus on others can distract from the task at hand. Because they are so concerned with the needs of others and smoothing over issues, they do not like conflict. They believe that change threatens the status quo and tends to make people feel uneasy, so people with this communication style, like phlegmatic people, need time to consider the changes in order to adapt to them.

Section G

The choleric temperament translates into the bold or direct style of communication. People with this style are brief in their communication – the fewer words the better. They are big-picture thinkers and love to be involved in many things at once. They are focused on tasks and outcomes and often forget that the people involved in carrying out the tasks have needs. They don't do detail work easily and as a result, can often underestimate how much time it takes to achieve the task. Because they are so direct, they often seem forceful and can be very intimidating to others. They usually would welcome someone

challenging them. But most other styles are afraid to do so. They also thrive on change, the more the better.

Section H

A well-functioning team should have all of these communications styles for true effectiveness. All teams need to focus on the task, and they need to take care of relationships in order to achieve those tasks. They need the big picture perspective or the context of their work, and they need the details to be identified and taken care of for success. We all have aspects of each style within us. Some of us can easily move from one style to another and adapt our style to the needs of the situation at hand-whether the focus is on tasks or relationships. For others, a dominant style is very evident, and it is more challenging to see the situation from the perspective of another style.

The work environment can influence communication styles either by the type of work that is required or by the predominance of one style reflected in that environment. Some people use one style at work and another at home. The good news about communication styles is that we have the ability to develop flexibility in our styles. The greater the flexibility we have, the more skilled we usually are at handling possible and actual conflicts. Usually, it has to be relevant to us to do so, either because we think it is important or because there are incentives in our environment to encourage it. The key is that we have to want to become flexible with our communication style. As Henry Ford said, “Whether you think you can or you can’t, you’re right!”

Questions 27-34

Instructions to follow

- Reading Passage 3 has eight sections A-H. Choose the correct heading for each section from the list of headings below.
- Write the correct number i-x in boxes 27-34 on your answer sheet.

List of Headings

i Different personality types mentioned
ii recommendation of combined styles for group
iii Historical explanation of understanding personality
iv A lively and positive attitude person depicted
v A personality likes a challenge and direct communication
vi different characters illustrated
vii Functions of understanding communication styles
viii Cautious and considerable person cited
ix Calm and Factual personality illustrated
x Self-assessment determines one's temperament

27 Section A
28 Section B
29 Section C
30 Section D
31 Section E
32 Section F
D Section G
C Section H

Questions 35-39

Instructions to follow

- Do the following statements agree with the information given in Reading Passage 3. In boxes 35-39 on your answer sheet, write
  TRUE if the statement is true
  FALSE if the statement is false
  NOT GIVEN if the information is not given in the passage

A it is believed that sanguine people do not like variety

B Melancholic and phlegmatic people have similar characteristics

37 It is the sanguine personality that needed most in the workplace.

38 It is possible for someone to change a type of personality.

39 work surrounding can affect which communication style is the most effective.

Question 40

Instructions to follow

- Choose the correct letter, A, B, C or D.
- Write your answers in box 40 on your answer sheet.

40 The author thinks self-assessment tools can be able to

A assist to develop one's personality in a certain scenario.

B help to understand colleagues and resolve problems

C improve the relationship with the boss of the company

D change others behaviour and personality

IELTS Reading Test 12

Section 1

Instructions to follow

- You should spend 20 minutes on Questions 1-13 which are based on Reading Passage 1

Reflecting On The Mirror

In all likelihood the first mirrors would have simply been pools of water that reflected the image of the one who looked into it. Nature's mirror, while cheap and readily accessible, must have also been quite frustrating with the slightest disturbance on the surface of the water making it difficult to see clearly. It is not altogether clear when the first man-made mirrors were produced but mirrors made of brass are mentioned in the Bible, and after that mirrors of bronze were in common use among the ancient Egyptians, Romans and Greeks. In addition to bronze, the Greeks and Romans experimented with polished silver to produce simple mirrors.

Crude forms of glass mirrors were first made in Venice in 1300. Small sheets of glass were cut from disks made by a spinning process. When this glass was backed with a covering of tin or lead, a 'mirror' resulted. During the early periods of their development, mirrors were rare and expensive. France had glass factories but only in Venice, Italy was the secret of mirror foiling know n. The chemical process of coating a glass surface with metallic silver was discovered by German chemist Justus von Liebig in 1835, and this advance inaugurated the modern techniques of mirror making.

By the end of the 17th century mirrors were made in Britain and the manufacture of mirrors developed subsequently into an important industry in many other European countries. People wore them in their hats, or set them like jewels in their rings. Society glittered and shone like the firmament. A little later on, America was gripped by the mirror craze, only this time they wore interested in larger mirrors. In house after house in residential districts and eastern cities there could be found one long mirror after another placed between two front parlour windows.

In the manufacture of mirrors today, plate glass is cut to size, and all blemishes are removed by polishing with rouge. The glass is scrubbed and flushed with a reducing solution before silver is applied. The glass is then placed on a hollow, cast-iron tabletop, covered with felt, and kept warm by steam. A solution of silver nitrate is poured on the glass and left undisturbed for about 1 hour. The silver nitrate is reduced to a metallic silver and a lustrous deposit of silver gradually forms. The deposit is dried, coated with shellac, and painted. Most present-day mirrors therefore, are made up of these layers. Glass is used on top because it is smooth, clear, and protects the reflective surface. A mirror needs to be very smooth in order for the best reflection to occur.

Mirrors may have plane or curved surfaces. A curved mirror is concave or convex depending on whether the reflecting surface faces toward the centre of the curvature or away from it. Curved mirrors in ordinary usage have surfaces of varying shapes. Perhaps the most common is spherical. Spherical mirrors produce images that are magnified or reduced – exemplified, by mirrors for applying facial makeup and by rear-view mirrors for vehicles. Cylindrical mirrors are another common type of shape. These focus a parallel beam flight to a linear focus. A paraboloidal mirror is one which is often used to focus parallel rays to a sharp focus, as in a telescope mirror, or to produce a parallel beam from

a source at its focus, such as a searchlight. A less common but useful shape is the ellipsoidal. Such a mirror will reflect light from one of its two focal points to the other.

While the mirror is the focus of the production, the frame plays an important albeit slightly lesser role as the anchor by which the mirror is affixed to its proper place. From the late 17th century onward, mirrors and their frames played an increasingly important part in the decoration of rooms. Complementing the shiny reflective mirror, the early frames were usually of ivory, silver, ebony, or tortoiseshell or were veneered with walnut, olive, and laburnum. Needlework and bead frames were also to be found. Craftsmen such as Grinling Gibbons often produced elaborately carved mirror frames to match a complete decorative ensemble. The tradition soon became established of incorporating a mirror into the space over the mantelpiece; many of the early versions of these mirrors, usually known as overmantels, were enclosed in glass frames. The architectural structure of which these mirrors formed a part became progressively more elaborate. Focusing heavily on the effect created by mirrors, 18th century designers such as the English brothers Robert and James Adam created fireplace units stretching from the hearth to the ceiling. Oil the whole, mirror frames reflected the general taste of the time and were often changed to accommodate alterations in taste – frames usually being cheaper and hence more easily replaced than the mirror itself.

By the end of the 18th century, painted decoration largely supplanted carving on mirrors, the frames being decorated with floral patterns or classical ornaments. At the same time the French started producing circular mirrors. Usually surrounded by a neoclassical gilt frame that sometimes supported candlesticks, these mirrors enjoyed great popularity well into the 19thImproved skill in mirror making also made possible die introduction of the cheval glass, a freestanding full-length mirror, supported on a frame with four feet. These were mainly used for dressing purposes, though occasionally they had a decorative

function. New, cheaper techniques of mirror production in the 19th century led to a great proliferation in their use. Not only were they regularly incorporated into pieces of furniture – such as wardrobes and sideboards – they were also used in everything from high-powered telescopes to decorative schemes in public places. Their popularity continues today. Through them, infants are able to develop an awareness of their individuality through 'mirror games'. This type of emotional reflection stimulates babies to move various parts of their body and even promotes verbal utterances.

Questions 1-5

Instructions to follow

- Do the following statements reflect the claims of the writer in Reading Passage? 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

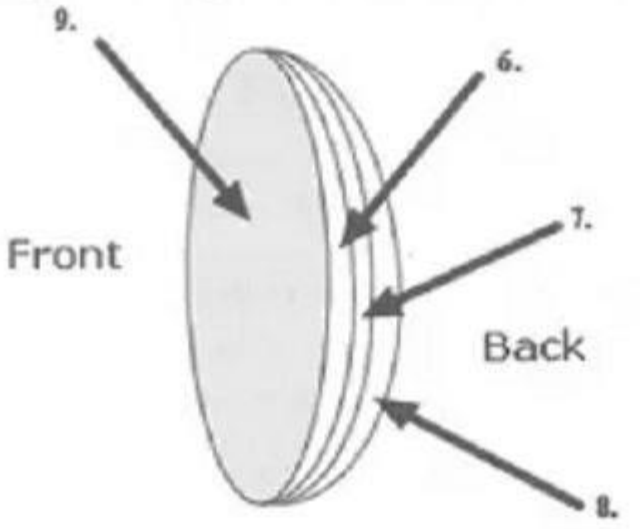
1. The Creeks arid Egyptians used polished silver to make mirrors.
2. The first man-made mirrors were made of bronze.
3. Only the wealthy could afford the first mirrors.
4. The first mirrors in America were used for decoration.
5. Spherical mirrors are commonly used in cars.

Questions 6 – 9

Instructions to follow

- Complete the labels on Diagram A below.
- Write the correct letter A-J in boxes 6-9 on your answer sheet.

Diagram A: Magnified side-view of a mirror



A rouge
B cast iron
C felt
D steam
E shellac
F glass
G metal
H silver nitrate paint
I reducing solution

6 _____

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

B _____

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

C _____

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

9 _____

A ○ B ○ C ○ D ○ E ○ F ○ G ○ H ○ I ○

Questions 10-13

Instructions to follow

- Choose the correct letter, A, B, C or D.
- Write your answers in boxes 10-13 on your answer sheet.

10 The type of mirror used for looking at the stars is

A ○ paraboloidal.
B ○ spherical.
C ○ cylindrical.
D ○ ellipsoidal.

11 17th century craftsmen

A ○ blended mirror frames well with other household furniture.
B ○ hung mirrors above fireplaces.
C ○ used mirror frames as a focus for home decoration.
D ○ established floral patterns as a standard for mirror frames.

12 18th century craftsmen

A ○ designed furniture which highlighted the unique properties of mirrors.

B ○ experimented largely with mirror frames made of ebony and ivory.

C ○ built spherically-shaped minors.

D ○ experimented with ceiling mirrors around fireplaces.

13 19th century craftsmen

A ○ used mirrors less than any previous time in history.

B ○ introduced mirrors as learning tools.

C ○ used mirrors extensively in bedroom furniture.

D ○ etched designs into mirrors.

Section 2

Instructions to follow

- You should spend 20 minutes on Questions 14-26 which are based on Reading Passage 2.

Effort And Science To Win

Winning nowadays is not only a question of disciplined training: The triumph of victory today involves the collaboration of several medical specialists who combine their particular knowledge in an effort to help each athlete to reach their potential.

A. In Mexico, the Medicine Direction and Applied Sciences of the National Commission of Deporte analyse all aspects of sports science from the role of the auditory system in sporting achievement to the power of the mind and its role in the ability to win. Everything, it seems, is open to scrutiny. Recently, the focus has been evaluating the visual acuity of cyclists and long-distance runners but they also focus on the more traditional areas of sports research, especially psychology, nutrition, anthropology, biochemistry and odontology[1]. From budding child athletes as young as 9 to the more mature-aged sportsperson, the facility at Deporte has attracted some of Mexico's most famous sporting and Olympic hopefuls.

B. "The study of elite athletes is now more scientific than ever," says doctor Francisco Javier Squares, "after each competition, athletes are exposed to vigorous medical examinations and follow-up training in order to help the US arrive at a program that is tailor-made. "The modern athlete has become big business, no longer is there a one-size-fits-all approach. For example, in the past two people, both 1.70 meters tall and weighing 70 kilograms would have been given the same program of athletic conditioning – now this idea is

obsolete. It may be that the first individual has 35 kgs of muscle and 15 kgs of fat and the other person, although the same height and weight may have 30 kgs of muscle and 20 kgs of fat. Through detailed scientific evaluation here at our facility in Deportee," says Squares, "… we are able to construct a very specific training programme for each individual."

C. Whereas many countries in the world focus on the elevation of the glorious champion, the Mexican Olympic team takes a slightly different approach. Psychologically speaking an athlete must bring to his endeavour a healthy dose of humility. As Squares said, "When an athlete wins for Mexico, it is always as a result of a combined team effort with many people operating behind the scenes to realise the sporting achievement. When an athlete stands on the dais, it is because of great effort on the part of many."

D. As is often the case in some poorer countries, sportsmen and women are stifled in their development due to budgetary constraints. However, this has not been a factor for consideration with the team in Mexico. The Mexican government has allocated a substantial sum of money for the provision of the latest equipment and laboratories for sports research. In fact, the quality of Mexico's facilities puts them on par with countries like Italy and Germany in terms of access to resources. One example of sophisticated equipment used at the Mexican facility is the hyperbaric chamber. This apparatus is used to enhance oxygen recovery after a vigorous physical workout. Says Squares, "When you breathe the air while inside a hyperbaric chamber the natural state of the oxygen does not change. Green plants produced oxygen; modern technology just increases the air pressure. This does not change the molecular composition of oxygen. Increased pressure just allows oxygen to get into tissues better. Due to our purchase of the hyperbaric chamber, athletes are able to recover from an intense workout in a much shorter space of time. We typically use the chamber for sessions of 45 to 60 minutes two or three times per week."

E. When pushed to the limit, the true indicator of fitness is not how hard the heart operates, but how quickly it can recover after an extreme workout. Therefore, another focus area of study for the team in Mexico has been the endurance of the heart. To measure this recovery rate, an electroencephalograph (EEG) is used. The EEG enables doctors to monitor the brainwave activity from sensors placed on the scalp. Athletes exert intense effort for a sustained period after which they are given time to rest and recover. During these periods between intense physical exertion and recovery, doctors are able to monitor any weaknesses in the way the heart responds. The CCG has had a big impact on our ability to measure the muscular endurance of the heart.

F. In 1796, the life expectancy of a human being was between 25 and 36 years, in 1886 that number basically doubled to between 45 and 50. In 1996, the life expectancy of an average Mexican stood at around 75 years. People are living longer and this is due in large part to the advances of modern science. It is not all sophisticated medical equipment that is playing a part; although lesser in impact, basic advances in engineering are also greatly assisting. Take, for example, a professional tennis player. In the past, most tennis players' shoes were constructed with fabric and a solid rubber sole. These shoes were of poor construction and resulted in hip and foot injuries. Today the technology of shoe construction has radically changed. Now some shoes are injected with silicone and made of more comfortable, ergonomic[1] construction. This has helped not only the elite but also the recreational sportsperson and thus, helps in the preservation of the human body.

[1] objects designed to be better adapted to the shape of the human body

Questions 14 -17

Instructions to follow

- The passage has eight paragraphs labelled, A-F. Which paragraph contains the following information?
- Write the correct letter A-F in boxes 14-17 on your answer sheet.
- NB You may use any letter more than once.

14 the natural process of oxygen production

A ○ B ○ C ○ D ○ E ○ F ○

15 standard after-competition procedure

A ○ B ○ C ○ D ○ E ○ F ○

16 the areas of study undertaken to improve athletic performance

A ○ B ○ C ○ D ○ E ○ F ○

17 the Mexican viewpoint on winning

A ○ B ○ C ○ D ○ E ○ F ○

Questions 18 -20

Instructions to follow

- Choose the correct letter, A, B, C or D.
- Write your answers next to 18-20 on your answer sheet.

18 The hyperbaric chamber

A ○ helps athletes to breathe more easily.

B ○ increases the level of oxygen an athlete breathes.

C ○ decreases the pressure of the oxygen for Mexican athletes.

D ○ speeds up recovery time for athletes.

19 The electroencephalograph (EEC)

- A measures how fast brainwaves move during exercise.
- B helps doctors to determine heart problems.
- C measures how hard the heart works during exercise.
- D strengthens the heart muscle in athletes.

20 The life-span of individuals in Mexico has increased due to

- A medical improvements.
- B more committed doctors.
- C better-made sporting equipment.
- D advances in ergonomics.

Questions 21-26

Instructions to follow

- Do the following statements agree with the information given in Reading Passage 2?
  In boxes 21-26 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

21 There are limits to the level of sporting enquiry.

22 Specific athletic programs differ mostly between men and women.

23 Mexico and Germany have similar sporting resources.

24 Lack of money is what stops athletic improvement in some poor countries.

25 Wealthy countries enjoy greater athletic success.

26 Mexican athletes have the support of their government.

Section 3

Instructions to follow

- You should spend 20 minutes on Questions 27-40 which are based on Reading Passage 3.

Fuelling The Future

A. The world's 750 million motor vehicles emit well over 900 million metric tonnes of carbon dioxide each year. Traffic-related air pollution has been responsible for 6% of deaths per year and is associated with certain forms of leukaemia, inflammatory lung diseases, increased cardiovascular disease, low birth-weight babies and male infertility. It stands to reason that tackling traffic-related air pollution should be high on any government's list of priorities. Thus, in an attempt to minimise this situation many governments around the world have been looking at ways to implement alternative fuel sources. The most widely accepted way of doing this is to replace the crude oil that our vehicles currently run on with renewable, 'environmentally friendly' One serious contender put forward as a solution to the pollution problem is ethanol. Ethanol is a type of alcohol made by fermenting plant material. Water and organic matter from the plants including com, sorghum, sugar cane and wood are mixed together and fermented to make ethanol.

B. After fermentation, there are three layers remaining. The first is water and small particles of grain and alcohol. It takes on a syrup consistency. The second layer is the remaining grain, which is 17 per cent dry matter. The third layer is the actual ethanol – a colourless, volatile, flammable liquid. It is the only layer sold and accounts for exactly one-third of the total dry matter used for its production. There are three primary ways that it is used as a fuel for transportation: as a blend of 10 per cent ethanol with 90% unleaded fuel

(E10); as a component of reformulated gasoline and; as a primary fuel with 85 parts of ethanol blended with 15 parts of unleaded fuel (E-85). In the 1800s in the USA, it was first used as lamp fuel. Later on, due to skyrocketing oil prices in the 1970s, E10 was produced as a type of 'fuel-extender' for vehicles with E-85 being produced in the 1990s. Brazil has also used ethanol-blended fuels. Like America, the high prices in the 1970s prompted a government mandate to produce vehicles which could be fuelled by pure ethanol Today there are more than 4,2 million ethanol-powered vehicles in Brazil (40 per cent passenger-carrying) which consume 4 billion gallons of ethanol annually. Today, Brazil is the largest transportation ethanol fuel market in the world.

C. Given that Ethanol is made from a variety of plant substances when it is used in fuel production, it increases the monetary value of feed grains grown by farmers. In fact, in the USA, the largest ethanol consuming nation in the world, ethanol production adds £4.5 billion to the farm economy every year. According to the United States Department of Agriculture, ethanol production adds 30 cents to the value of a bushel of corn. Another of its benefits, according to Brian Keating, deputy chief of Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) is that a 10% ethanol blend (E10) would reduce greenhouse gas emissions by 2 to 5% over the full lifecycle of ethanol production and consumption. Said Keating, "The precise benefits depend on specific factors in the production cycle. An important component of which is the energy source used by the ethanol factory. If it's being powered by coal or oil, there are obviously associated with greenhouse gas emissions." In America, The Clean Air Act of 1990 and the National Energy Policy Act of 1992 have both created new market opportunities for a cleaner, more efficient fuels with many state governments in America's Mid-west purchasing fleet vehicles capable of running on E-85 fuels.

D. Although it makes a good fuel, some drawbacks have been documented. The economics of ethanol production are improving as the technology improves but ethanol has two problems: It does not explode like gasoline, and it can absorb water, which can cause oxidation, rust and corrosion. The claims of possible damage to vehicles from the use of ethanol blends above 10% have therefore attracted considerable negative publicity. Compared to diesel – the standard fuel in the heavy moving industry – ethanol is known to have a lower energy content so ethanol trucks require larger fuel tanks to achieve the same range as a diesel-powered vehicle. In Australia, a government review' into the impacts of a 20% ethanol blend on vehicles found the information to be insufficient or conflicting but did identify a number of problems such as the possible perishing and swelling of elastomeric and plastic materials in fuel systems. Stakeholders in the motor vehicle industry have slated that warranties on motor vehicles and pump dispensing equipment could be at risk with the use of blends above 10% ethanol. Principle economist for the Australian Bureau of Agriculture Andrew Dickson points out that the money sugarcane growers get for their cane is not determined by the domestic consumption or domestic demand for ethanol, it is entirely determined by the world sugar market and the world trade in molasses He believes that the only way the sugar industry' can benefit from the existence of an ethanol industry is if they invest in the ethanol industry. "The sugar producer does not get any more money for their molasses so what incentive do they have to produce any more?." The cost of production also represents some challenges.

E. In Australia, fuel ethanol costs around 70 cents per litre compared with around 35 cents per litre for unleaded petrol. In America, one report revealed that even with government assistance, ethanol is dose to 35 per cent more than the price of diesel. Consequently, the production of ethanol requires government assistance to be competitive. A recent study by the Australian Bureau of Agricultural and Resource Economies found that without

assistance, large-scale production of ethanol would not be commercially viable in Australia. Regardless of whether the Australian sugar industry will benefit from a mandated 10% ethanol mix, the expansion of ethanol production would certainly lead to increased economic activity in farming areas. It is inevitable that some expansion would be at the expense of existing industry. If ethanol becomes more popular, there will soon be more plants producing it. This means there will be a need for workers for the plants. The American National Ethanol Vehicle Coalition (NBVC) projects that employment will be boosted by 200,000 jobs and the balance of trade will be improved by over $2. The future of ethanol looks promising, for better or worse ethanol looks to be a serious contender for tomorrow's fuel.

Questions 27-31

Instructions to follow

- Do the following statements agree with the claims of the writer in Reading Passage 2?
  In boxes 27-31 on your answer sheet, write
  YES if the statement reflects the claims of the writer
  NO if the statement contradicts the claims of the writer
  NOT GIVEN if it is impossible to say what the writer thinks about this

27 The need to control air pollution is why ethanol came into use.

28 Brazil uses more ethanol for transportation than America.

29 Select food crops become more expensive due to ethanol production

30 The Australian sugar industry will benefit from the production of ethanol.

31 Primary ethanol (E-85) has been extensively tested in Australia.

Questions 32-35

Instructions to follow

- Look at the following list of descriptions (Questions 32-35) and list of fuel types below.
- Match each description of the fuel type.
- Write the correct letter A-D in boxes 32-35 on your answer sheet.
- NB You may use any letter more than once.

32 costs about half the price of ethanol

A ○ B ○ C ○ D ○

D ○ reacts poorly with some metals

A ○ B ○ C ○ D ○

C ○ is the reason why trucks have been fitted with larger fuel tanks

A ○ B ○ C ○ D ○

A commonly used in the trucking industry

A ○ B ○ C ○ D ○

A regular gasoline

B unleaded gasoline

C ethanol

D diesel

Question 36-40

Instructions to follow

- Write the appropriate letters A-D in boxes 36-40 on your answer sheet.

A Australia only

B America only

C both Australia and America

D neither Australia nor America

B makes ethanol out of sugar cane

A ○ B ○ C ○ D ○

37 uses more ethanol than any other country in the world.

A ○ B ○ C ○ D ○

38 receives government assistance for ethanol production.

A ○ B ○ C ○ D ○

39 proved ethanol production is costly.

A ○ B ○ C ○ D ○

40 their government bought ethanol-friendly cars.

A ○ B ○ C ○ D ○

Answer Keys

Reading Test 1

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	True	14	C	27	Yes
2	Not Given	15	D	28	Not Given
3	Not Given	16	A	29	No
4	False	17	K	30	Not Given
5	Pith	18	I	31	Social division
6	Terpenes	19	B	32	Machines
7	Alkaloids	20	L	33	John Fredersen
8	Detoxify	21	J	34	Abstract
9	Hooks	22	True	35	Function
10	G	23	False	36	Efficiency
11	D	24	True	37	C
12	E	25	False	38	A

13	C	26	True	39	B
				40	D

Reading Test 2

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	False	15	True	28	Land
2	Not Given	16	True	29	Poor
3	Not Given	17	False	30	Aid
4	Not Given	18	Not Given	31	Business
5	iii	19	False	32	Communities
6	v	20	Not Given	33	China
7	vii	21	A	34	Geography
8	ii	22	D	35	Investment
9	i	23	B	36	Education
10	ix	24	C	37	34
11	viii	25	C	38	Suffering
12	vi	26	D	39	C, E (in either order)
13	iv	27	D	40	E, C (in either order)

14	B	

Reading Test 3

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	D	14	ii	27	C
2	D	15	iv	28	A
3	C	16	x	29	B
4	C	17	vi	30	D
5	B	18	i	31	I
6	D	19	vii	32	D
7	A	20	xii	33	J
8	B	21	Homesteads	34	F
9	Royal Antelope	22	Agricultural output	35	C
10	The auroch	23	Wheat	36	Yes
11	Long, Splayed hooves	24	Company	37	No
12	Arid Desert	25	Police force	38	No
13	Pronghorn	26	Transcontinental railway	39	Not Given

	40	Yes

Reading Test 4

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	False	14	A	28	A
2	True	15	D	29	C
3	Not Given	16	A	30	B
4	True	17	C	31	Chocolate
5	True	18	C	32	Machines
6	Clay	19	A	33	Swiss
7	Tempering wheel	20	B	34	German
8	Moulds	21	Tolerance	35	Interdisciplinary
9	Sand	22	Processes	36	True
10	Strength	23	Fur	37	Not Given
11	Kiln	24	Preserver	38	True
12	Leaves	25	Trapped	39	False
13	20 millimeters	26	Conductor	40	False

	27	Metabolic	

Reading Test 5

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	B	14	iii	29	Drugs
2	A	15	vi	30	Their own disorders
3	D	16	ix	31	Money
4	E	17	iv	32	illness
5	D	18	ii	33	Developing countries
6	F	19	vii	34	Ethical, legal responsibilities
7	B	20	C, E (in either order)	35	(The) Nuremberg code
8	I	21	E, C (in either order)	36	Strict
9	G	22	A, C (in either order)	37	Genuine altruism
10	E	23	C, A (in either order)	38	Money, Medicine
11	D	24	Civilised	39	Ethical quandaries

12	A	25	Reversal	40	B
13	F	26	Regular wage		
		27	Stream power		
		28	Picturesque		

Reading Test 6

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	vii	14	ii	28	True
2	i	15	viii	29	False
3	Iv	16	iv	30	Not Given
4	Ii	17	x	31	True
5	Iii	18	i	32	Not Given
6	vi	19	vii	33	Costly
7	Not Given	20	v	34	Gutta-Percha
8	True	21	ix	35	Lead pipe
9	True	22	B	36	Impedance
10	Not Given	23	D	37	James Buchanan
11	False	24	C	38	Camels
12	True	25	By accident	39	Tropical rains

13	False	26	Pollution	40	Several hours
		27	Formed an alliance		

Reading Test 7

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	No	14	Black stripes	27	D
2	No	15	12 million	28	C
3	Not Given	16	Australia	29	E
4	Yes	17	European	30	B
5	Not Given	18	A	31	Environmental
6	Not Given	19	D	32	Light
7	Yes	20	C	33	Multitasking
8	Carbon dioxide	21	B	34	Food
9	NGO	22	A	35	Predator
10	Renewable Energy Law	23	D	36	E
11	Solar, Wind, Biomass	24	B	37	H

12	Technology	25	D	38	B
13	The climate group	26	A	39	B
				40	A

Reading Test 8

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	Role	14	C	27	B
2	Survival	15	F	28	A
3	The wild	16	E	29	D
4	Protection	17	A	30	No
5	Genes	18	C	31	Yes
6	American football	19	D	32	Not Given
7	Passing the ball	20	D	33	No
8	Opinions	21	A	34	Yes
9	Filmed	22	D	35	Not Given
10	Moved her foot	23	Yes	36	No
11	A	24	Not Given	37	C
12	B	25	No	38	E

13	C	26	Not Given	39	A
				40	B

Reading Test 9

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	Transportation	14	Space X	27	Yes
2	Pharmaceuticals	15	US Scientists	28	Not Given
3	Manuscripts	16	Nearly ready	29	No
4	Sublimation	17	Safety	30	Yes
5	Simple drying (techniques)	18	Mother ship	31	B
6	(freeze-drying) chamber	19	Plane	32	C
7	Shelves	20	UN's 1967 Treaty	33	A
8	Freezing coil	21	C	34	D
9	(refrigerator) compressor	22	G	35	B
10	Enzymes	23	F	36	B
11	Composition	24	B	37	F

12	Overheating	25	I	38	E
13	High altitudes	26	E	39	A
				40	D

Reading Test 10

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	False	14	Not Given	27	E
2	Not Given	15	Yes	28	D
3	True	16	No	29	C
4	True	17	Not Given	30	E
5	Not Given	18	Fertilizer	31	A
6	False	19	Lasers	32	B
7	Not Given	20	Cereals	33	C
8	Not Given	21	Communication	34	D
9	A	22	C	35	B
10	B	23	F	36	C
11	C	24	H	37	Generation

12	C	25	A	38	Citizen
13	A	26	D	39	Abstract
				40	Music

Reading Test 11

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	(severe) drought	14	Navigation and communication	27	iii
2	large seeds	15	radiation	28	vii
3	heavy rains	16	antennae	29	i
4	Small seeds	17	smoke	30	iv
5	Finch evolution	18	C	31	ix
6	Medium-sized bills	19	D	32	viii
7	Human population	20	B	33	v
8	rice	21	E	34	ii
9	FALSE	22	A	35	FALSE
10	NOT GIVEN	23	FALSE	36	TRUE
11	TRUE	24	TRUE	37	NOT GIVEN
12	FALSE	25	NOT GIVEN	38	TRUE

13	TRUE	26	NOT GIVEN	39	TRUE
				40	B

Reading Test 12

Section 1		Section 2		Section 3	
Question	**Answer**	**Question**	**Answer**	**Question**	**Answer**
1	FALSE	14	D	27	NO
2	FALSE	15	B	28	YES
3	TRUE	16	A	29	YES
4	NOT GIVEN	17	C	30	NO
5	TRUE	18	D	31	NOT GIVEN
6	H	19	B	32	B
7	E	20	A	33	C
8	I	21	FALSE	34	C
9	F	22	NOT GIVEN	35	D
10	A	23	TRUE	36	A
11	A	24	TRUE	37	B
12	A	25	NOT GIVEN	38	B
13	C	26	TRUE	39	C

	40	B