

READING MOCK TEST 1

SECTION 1

(Source : Cambridge Guide to IELTS)

BAKELITE – The birth of modern plastics

In 1907, Leo Hendrick Baekeland, a Belgian scientist working in New York, discovered and patented a revolutionary new synthetic material. His invention, which he named 'Bakelite', was of enormous technological importance, and effectively launched the modern plastics industry.

The term 'plastic' comes from the Greek *plassein*, meaning 'to mould'. Some plastics are derived from natural sources, some are semi-synthetic (the result of chemical action on a natural substance), and some are entirely synthetic, that is, chemically engineered from the constituents of coal or oil. Some are 'thermoplastic', which means that, like candlewax, they melt when heated and can then be reshaped. Others are 'thermosetting': like eggs, they cannot revert to their original viscous state, and their shape is thus fixed for ever. Bakelite had the distinction of being the first totally synthetic thermosetting plastic.

The history of today's plastics begins with the discovery of a series of semi-synthetic thermoplastic materials in the mid-nineteenth century. The impetus behind the development of these early plastics was generated by a number of factors – immense technological progress in the domain of chemistry, coupled with wider cultural changes, and the pragmatic need to find acceptable substitutes for dwindling supplies of 'luxury' materials such as tortoiseshell and ivory.

Baekeland's interest in plastics began in 1885 when, as a young chemistry student in Belgium, he embarked on research into phenolic resins, the group of sticky substances produced when phenol (carbolic acid) combines with an aldehyde (a volatile fluid similar to alcohol). He soon abandoned the subject, however, only returning to it some years later. By 1905 he was a wealthy New Yorker, having recently made his fortune with the invention of a new photographic paper. While Baekeland had been busily amassing dollars, some advances had been made in the development of plastics. The years 1899 and 1900 had seen the patenting of the first semi-synthetic thermosetting material that could be manufactured on an industrial scale. In purely scientific terms, Baekeland's major contribution to the field is not so much the actual discovery of the material to which he gave his name, but rather the method by which a reaction between phenol and formaldehyde could be controlled, thus making possible its preparation on a commercial basis. On 13 July 1907, Baekeland took out his famous patent describing this preparation, the essential features of which are still in use today.

The original patent outlined a three-stage process, in which phenol and formaldehyde (from wood or coal) were initially combined under vacuum inside a large egg-shaped kettle. The result was a resin known as Novalak, which became soluble and malleable when heated. The resin was allowed to cool in shallow trays until it hardened, and then broken up and ground into powder. Other substances were then introduced: including fillers, such as woodflour, asbestos or cotton, which increase strength and moisture resistance, catalysts (substances to speed up the reaction between two chemicals without joining to either) and hexa, a compound of ammonia and formaldehyde which supplied the additional formaldehyde necessary to form a thermosetting resin. This resin was then left to cool and harden, and ground up a second time. The resulting granular powder was raw Bakelite, ready to be made into a vast range of manufactured objects. In the last stage, the heated Bakelite was poured into a hollow mould of the required shape and subjected to extreme heat and pressure; thereby 'setting' its form for life.

The design of Bakelite objects, everything from earrings to television sets, was governed to a large extent by the technical requirements of the moulding process. The object could not be designed so that it was locked into the mould and therefore difficult to extract. A common general rule was that objects should taper towards the deepest part of the mould, and if necessary the product was moulded in separate pieces. Moulds had to be carefully designed so that the molten Bakelite would flow evenly and completely into the mould. Sharp corners proved impractical and were thus avoided, giving rise to the smooth, 'streamlined' style popular in the 1930s. The thickness of the walls of the mould was also crucial: thick walls took longer to cool and harden, a factor which had to be considered by the designer in order to make the most efficient use of machines.

Baekeland's invention, although treated with disdain in its early years, went on to enjoy an unparalleled popularity which lasted throughout the first half of the twentieth century. It became the wonder product of the new world of industrial expansion - 'the material of a thousand uses'. Being both non-porous and heat-resistant, Bakelite kitchen goods were promoted as being germ-free and sterilisable. Electrical manufacturers seized on its insulating properties, and consumers everywhere relished its dazzling array of shades, delighted that they were now, at last, no longer restricted to the wood tones and drab browns of the pre-plastic era. It then fell from favour again during the 1950s, and was despised and destroyed in vast quantities. Recently, however, it has been experiencing something of a renaissance, with renewed demand for original Bakelite objects in the collectors' marketplace, and museums, societies and dedicated individuals once again appreciating the style and originality of this innovative material.

Questions 1-3

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

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

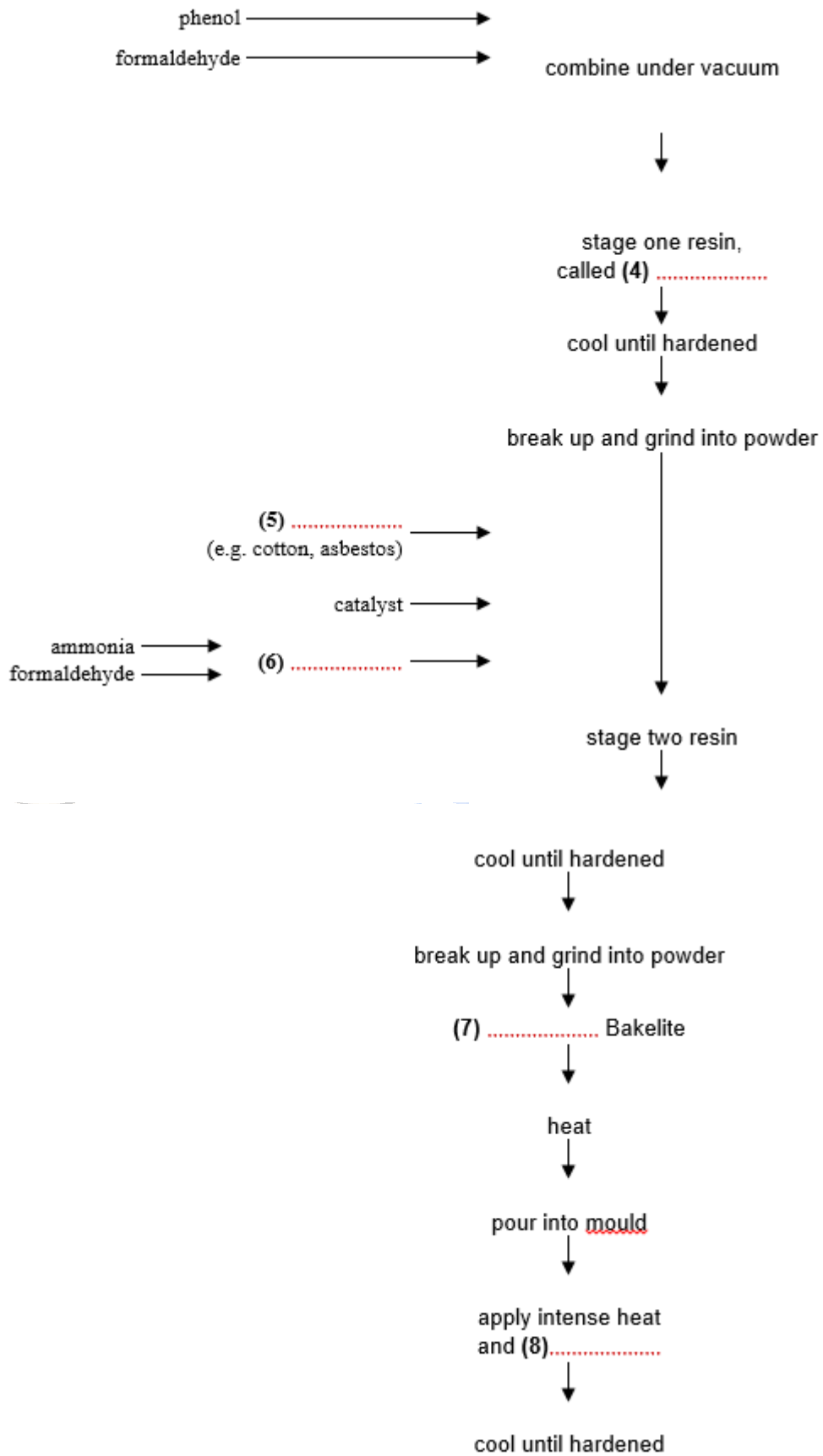
Some plastics behave in a similar way to (1) in that they melt under heat and can be moulded into new forms. Bakelite was unique because it was the first material to be both entirely (2) in origin, and thermosetting. There were several reasons for the research into plastics in the nineteenth century, among them the great advances that had been made in the field of (3) and the search for alternatives to natural resources like ivory.

Questions 4-8

Complete the flow-chart. Choose **ONE WORD ONLY** from the passage for each answer.

Write your answers in boxes 4-8 on your answer sheet.

The Production of Bakelite



Questions 9-10

Write your answers in boxes 9 and 10 on your answer sheet.

Which **TWO** of the following factors influencing the design of Bakelite objects are mentioned in the text?

- A the function which the object would serve
- B the ease with which the resin could fill the mould
- C the facility with which the object could be removed from the mould
- D the limitations of the materials used to manufacture the mould
- E the fashionable styles of the period

Questions 11-13

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

In boxes 11-13 on your answer sheet, write

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

11 Modern-day plastic preparation is based on the same principles as that patented in 1907.

12 Bakelite was immediately welcomed as a practical and versatile material.

13 Bakelite was only available in a limited range of colours.

SECTION 2

John McCrone reviews recent research on humour

The joke comes over the headphones: 'Which side of a dog has the most hair? The left.' No, not funny. Try again. 'Which side of a dog has the most hair? The outside.' Hah! The punchline is silly yet fitting, tempting a smile, even a laugh. Laughter has always struck people as deeply mysterious, perhaps pointless. The writer Arthur Koestler dubbed it the luxury reflex: 'unique in that it serves no apparent biological purpose'.

Theories about humour have an ancient pedigree. Plato expressed the idea that humour is simply a delighted feeling of superiority over others. Kant and Freud felt that joke-telling relies on building up a psychic tension which is safely punctured by the ludicrousness of the punchline. But most modern humour theorists have settled on some version of Aristotle's belief that jokes are based on a reaction to or resolution of incongruity, when the punchline is either a nonsense or, though appearing silly, has a clever second meaning.

Graeme Ritchie, a computational linguist in Edinburgh, studies the linguistic structure of jokes in order to understand not only humour but language understanding and reasoning in machines. He says that while there is no single format for jokes, many revolve around a sudden and surprising conceptual shift. A comedian will present a situation followed by an unexpected interpretation that is also apt.

So even if a punchline sounds silly, the listener can see there is a clever semantic fit and that sudden mental 'Aha!' is the buzz that makes us laugh. Viewed from this angle, humour is just a form of creative insight, a sudden leap to a new perspective.

However, there is another type of laughter, the laughter of social appeasement and it is important to understand this too. Play is a crucial part of development in most young mammals. Rats produce ultrasonic squeaks to prevent their scuffles turning nasty. Chimpanzees have a 'play-face' – a gaping expression accompanied by a panting 'ah, ah' noise. In humans, these signals have mutated into smiles and laughs. Researchers believe social situations, rather than cognitive events such as jokes, trigger these instinctual markers of play or appeasement. People laugh on fairground rides or when tickled to flag a play situation, whether they feel amused or not.

Both social and cognitive types of laughter tap into the same expressive machinery in our brains, the emotion and motor circuits that produce smiles and excited vocalisations. However, if cognitive laughter is the product of more general thought processes, it should result from more expansive brain activity.

Psychologist Vinod Goel investigated humour using the new technique of 'single event' functional magnetic resonance imaging (fMRI). An MRI scanner uses magnetic fields and radio waves to track the changes in oxygenated blood that accompany mental activity. Until recently, MRI scanners needed several minutes of activity and so could not be used to track rapid thought processes such as comprehending a joke. New developments now allow half-second 'snapshots' of all sorts of reasoning and problem-solving activities.

Although Goel felt being inside a brain scanner was hardly the ideal place for appreciating a joke, he found evidence that understanding a joke involves a widespread mental shift. His scans showed that at the beginning of a joke the listener's prefrontal cortex lit up, particularly the right prefrontal believed to be critical for problem solving. But there was also activity in the temporal lobes at the side of the head (consistent with attempts to rouse stored knowledge) and in many other brain areas. Then when the punchline arrived, a new area sprang to life -the orbital prefrontal cortex. This patch of brain tucked behind the orbits of the eyes is associated with evaluating information.

Making a rapid emotional assessment of the events of the moment is an extremely demanding job for the brain, animal or human. Energy and arousal levels may need, to be retuned in the blink of an eye. These abrupt changes will produce either positive or negative feelings. The orbital cortex, the region that becomes active in Goel's experiment, seems the best candidate for the site that feeds such feelings into higher-level thought processes, with its close connections to the brain's sub-cortical arousal apparatus and centres of metabolic control.

All warm-blooded animals make constant tiny adjustments in arousal in response to external events, but humans, who have developed a much more complicated internal life as a result of language, respond emotionally not only to their surroundings, but to their own thoughts. Whenever a sought-for answer snaps into place, there is a shudder of pleased recognition. Creative discovery being pleasurable, humans have learned to find ways of milking this natural response. The fact that jokes tap into our general evaluative machinery explains why the line between funny and disgusting, or funny and frightening, can be so fine. Whether a joke gives pleasure or pain depends on a person's outlook.

Humour may be a luxury, but the mechanism behind it is no evolutionary accident. As Peter Derks, a psychologist at William and Mary College in Virginia, says: 'I like to think of humour as the distorted mirror of the mind. It's creative, perceptual, analytical and lingual. If we can figure out how the mind processes humour, then we'll have a pretty good handle on how it works in general.'

Questions 14-20

Do the following statements agree with the information given in Reading Passage 2?

In boxes 14-20 on your answer sheet, write

TRUE if the statement is true according to the passage

FALSE if the statement is false according to the passage

NOT GIVEN if the information is not given in the passage

14 Arthur Koestler considered laughter biologically important in several ways.

15 Plato believed humour to be a sign of above-average intelligence.

16 Kant believed that a successful joke involves the controlled release of nervous energy.

17 Current thinking on humour has largely ignored Aristotle's view on the subject.

18 Graeme Ritchie's work links jokes to artificial intelligence.

19 Most comedians use personal situations as a source of humour.

20 Chimpanzees make particular noises when they are playing.

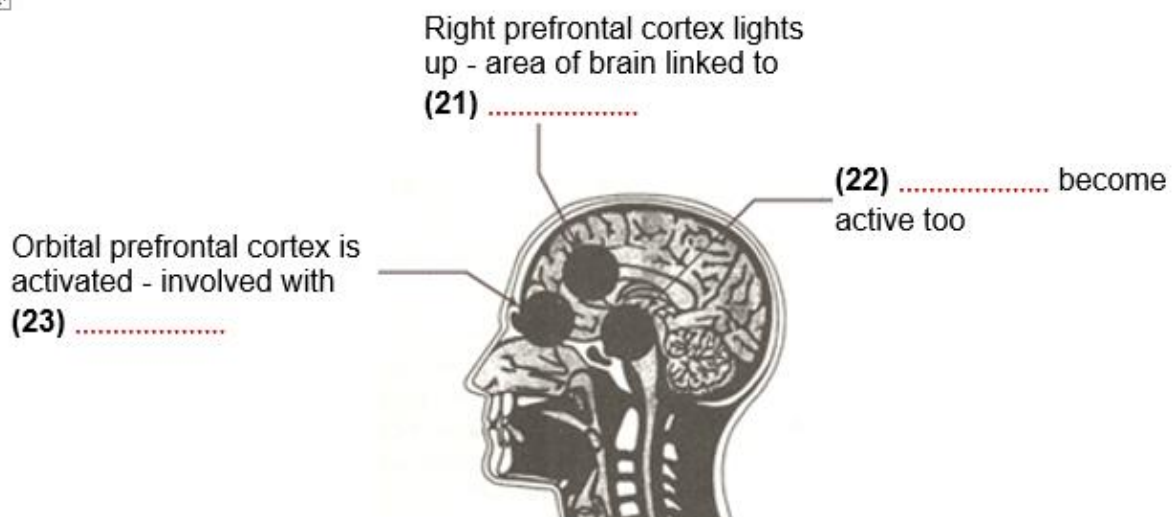
Questions 21-23

The diagram below shows the areas of the brain activated by jokes.

Label the diagram.

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

⚠



Questions 24-27

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

Write the correct letter A-G in boxes 24-27 on your answer sheet.

A react to their own thoughts.

B helped create language in humans.

C respond instantly to whatever is happening.

D may provide valuable information about the operation of the brain.

E cope with difficult situations.

F relate to a person's subjective views.

G led our ancestors to smile and then laugh.

- 24 One of the brain's most difficult tasks is to
25 Because of the language they have developed, humans
26 Individual responses to humour
27 Peter Derks believes that humour

SECTION 3

The Birth of Scientific English

World science is dominated today by a small number of languages, including Japanese, German and French, but it is English which is probably the most popular global language of science. This is not just because of the importance of English-speaking countries such as the USA in scientific research; the scientists of many non-English-speaking countries find that they need to write their research papers in English to reach a wide international audience. Given the prominence of scientific English today, it may seem surprising that no one really knew how to write science in English before the 17th century. Before that, Latin was regarded as the lingua franca for European intellectuals.

The European Renaissance (c. 14th-16th century) is sometimes called the 'revival of learning', a time of renewed interest in the 'lost knowledge' of classical times. At the same time, however, scholars also began to test and extend this knowledge. The emergent nation states of Europe developed competitive interests in world exploration and the development of trade. Such expansion, which was to take the English language west to America and east to India, was supported by scientific developments such as the discovery of magnetism (and hence the invention of the compass), improvements in cartography and – perhaps the most important scientific revolution of them all – the new theories of astronomy and the movement of the Earth in relation to the planets and stars, developed by Copernicus (1473-1543).

England was one of the first countries where scientists adopted and publicised Copernican ideas with enthusiasm. Some of these scholars, including two with interests in language -John Wall's and John Wilkins – helped Found the Royal Society in 1660 in order to promote empirical scientific research.

Across Europe similar academies and societies arose, creating new national traditions of science. In the initial stages of the scientific revolution, most publications in the national languages were popular works, encyclopaedias, educational textbooks and translations. Original science was not done in English until the second half of the 17th century. For example, Newton published his mathematical treatise, known as the Principia, in Latin, but published his later work on the properties of light – Opticks – in English.

There were several reasons why original science continued to be written in Latin. The first was simply a matter of audience. Latin was suitable for an international audience of scholars, whereas English reached a socially wider, but more local, audience. Hence, popular science was written in English.

A second reason for writing in Latin may, perversely, have been a concern for secrecy. Open publication had dangers in putting into the public domain preliminary ideas which had not yet been fully exploited by their 'author'. This growing concern about intellectual property rights was a feature of the period – it reflected both the humanist notion of the individual, rational scientist who invents and discovers through private intellectual labour, and the growing connection between original science and commercial exploitation.

There was something of a social distinction between 'scholars and gentlemen' who understood Latin, and men of trade who lacked a classical education. And in the mid-17th century it was common practice for mathematicians to keep their discoveries and proofs secret, by writing them in cipher, in obscure languages, or in private messages deposited in a sealed box with the Royal Society. Some scientists might have felt more comfortable with Latin precisely because its audience, though international, was socially restricted. Doctors clung the most keenly to Latin as an 'insider language'.

A third reason why the writing of original science in English was delayed may have been to do with the linguistic inadequacy of English in the early modern period. English was not well equipped to deal with scientific argument. First, it lacked the necessary technical vocabulary. Second, it lacked the grammatical resources required to represent the world in an objective and impersonal way, and to discuss the relations, such as cause and effect, that might hold between complex and hypothetical entities.

Fortunately, several members of the Royal Society possessed an interest in language and became engaged in various linguistic projects. Although a proposal in 1664 to establish a committee for improving the English language came to little, the society's members did a great deal to foster the publication of science in English and to encourage the development of a suitable writing style. Many members of the Royal Society also published monographs in English. One of the first was by Robert Hooke, the society's first curator of experiments, who described his experiments with microscopes in *Micrographia* (1665). This work is largely narrative in style, based on a transcript of oral demonstrations and lectures.

In 1665 a new scientific journal, *Philosophical Transactions*, was inaugurated. Perhaps the first international English-language scientific journal, it encouraged a new genre of scientific writing, that of short, focused accounts of particular experiments.

The 17th century was thus a formative period in the establishment of scientific English. In the following century much of this momentum was lost as German established itself as the leading European language of science. It is estimated that by the end of the 18th century 401 German scientific journals had been established as opposed to 96 in France and 50 in England. However, in the 19th century scientific English again enjoyed substantial lexical growth as the industrial revolution created the need for new technical vocabulary, and new, specialised, professional societies were instituted to promote and publish in the new disciplines.

Questions 28-34

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

Write your answers in boxes 28-34 on your answer sheet.

In Europe modern science emerged at the same time as the nation state. At first, the scientific language of choice remained (28) It allowed scientists to communicate with other socially privileged thinkers while protecting their work from unwanted exploitation. Sometimes the desire to protect ideas seems to have been stronger than the desire to communicate them, particularly in the case of mathematicians and (29) In Britain, moreover, scientists worried that English had neither the (30) nor the (31) to express their ideas. This situation only changed after 1660 when scientists associated with the (32) set about developing English. An early scientific journal fostered a new kind of writing based on short

descriptions of specific experiments. Although English was then overtaken by (33) it developed again in the 19th century as a direct result of the (34)

Questions 35-37

Do the following statements agree with the information given in Reading Passage 3?

In boxes 35-37 on your answer sheet, write

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

- 35 There was strong competition between scientists in Renaissance Europe.
- 36 The most important scientific development of the Renaissance period was the discovery of magnetism.
- 37 In 17th-century Britain, leading thinkers combined their interest in science with an interest in how to express ideas.

Questions 38-40

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

Science written in the first half of the 17th century		
Language used	Latin	English
Type of science	Original	(38).....
Examples	(39).....	Encyclopaedias
Target audience	International scholars	(40)but socially wider



Reading Mock Test 1 Answers:

1. candlewax
2. synthetic
3. chemistry
4. Novalak
5. fillers
6. hexa
7. raw
8. pressure
9. B
10. C
11. true
12. false
13. false
14. false
15. not given
16. true
17. false
18. true
19. not given
20. true
21. problem solving
22. temporal lobes
23. evaluating information
24. C
25. A
26. F
27. D

- 28. latin**
- 29. doctors**
- 30. technical vocabulary**
- 31. grammatical resources**
- 32. Royal Society**
- 33. German**
- 34. industrial revolution**
- 35. not given**
- 36. false**
- 37. true**
- 38. popular**
- 39. principia**
- 40. local audience**

READING MOCK TEST 2

SECTION 1

(Source : Cambridge Guide to IELTS)

The Impact of Wilderness Tourism

A The market for tourism in remote areas is booming as never before. Countries all across the world are actively promoting their 'wilderness' regions – such as mountains, Arctic lands, deserts, small islands and wetlands – to high-spending tourists. The attraction of these areas is obvious: by definition, wilderness tourism requires little or no initial investment. But that does not mean that there is no cost. As the 1992 United Nations Conference on Environment and Development recognized, these regions are fragile (i.e. highly vulnerable to abnormal pressures) not just in terms of their ecology, but also in terms of the culture of their inhabitants. The three most significant types of fragile environment in these respects, and also in terms of the proportion of the Earth's surface they cover, are deserts, mountains and Arctic areas. An important characteristic is their marked seasonality, with harsh conditions prevailing for many months each year. Consequently, most human activities, including tourism, are limited to quite clearly defined parts of the year.

Tourists are drawn to these regions by their natural landscape beauty and the unique cultures of their indigenous people. And poor governments in these isolated areas have welcomed the new breed of 'adventure tourist', grateful for the hard currency they bring. For several years now, tourism has been the prime source of foreign exchange in Nepal and Bhutan. Tourism is also a key element in the economies of Arctic zones such as Lapland and Alaska and in desert areas such as Ayers Rock in Australia and Arizona's Monument Valley.

B Once a location is established as a main tourist destination, the effects on the local community are profound. When hill-farmers, for example, can make more money in a few weeks working as porters for foreign trekkers than they can in a year working in their fields, it is not surprising that many of them give up their farm-work, which is thus left to other members of the family. In some hill-regions, this has led to a serious decline in farm output and a change in the local diet, because there is insufficient labour to maintain terraces and irrigation systems and tend to crops. The result has been that many people in these regions have turned to outside supplies of rice and other foods.

In Arctic and desert societies, year-round survival has traditionally depended on hunting animals and fish and collecting fruit over a relatively short season. However, as some inhabitants become involved in tourism, they no longer have time to collect wild food; this has led to increasing dependence on bought food and stores. Tourism is not always the culprit behind such changes. All kinds of wage labour, or government handouts, tend to undermine traditional survival systems. Whatever the cause, the dilemma is always the same: what happens if these new, external sources of income dry up?

The physical impact of visitors is another serious problem associated with the growth in adventure tourism. Much attention has focused on erosion along major trails, but perhaps more important are the deforestation and impacts on water supplies arising from the need to provide tourists with cooked food and hot showers. In both mountains and deserts, slow-growing trees are often the main sources of fuel and water supplies may be limited or vulnerable to degradation through heavy use.

C Stories about the problems of tourism have become legion in the last few years. Yet it does not have to be a problem. Although tourism inevitably affects the region in which it takes place, the costs to these fragile environments and their local cultures can be minimized. Indeed, it can even be

a vehicle for reinvigorating local cultures, as has happened with the Sherpas of Nepal's Khumbu Valley and in some Alpine villages. And a growing number of adventure tourism operators are trying to ensure that their activities benefit the local population and environment over the long term.

In the Swiss Alps, communities have decided that their future depends on integrating tourism more effectively with the local economy. Local concern about the rising number of second home developments in the Swiss Pays d'Enhaut resulted in limits being imposed on their growth. There has also been a renaissance in communal cheese production in the area, providing the locals with a reliable source of income that does not depend on outside visitors.

Many of the Arctic tourist destinations have been exploited by outside companies, who employ transient workers and repatriate most of the profits to their home base. But some Arctic communities are now operating tour businesses themselves, thereby ensuring that the benefits accrue locally. For instance, a native corporation in Alaska, employing local people, is running an air tour from Anchorage to Kotzebue, where tourists eat Arctic food, walk on the tundra and watch local musicians and dancers.

Native people in the desert regions of the American Southwest have followed similar strategies, encouraging tourists to visit their pueblos and reservations to purchase high-quality handicrafts and artwork. The Acoma and San Ildefonso pueblos have established highly profitable pottery businesses, while the Navajo and Hopi groups have been similarly successful with jewellery.

Too many people living in fragile environments have lost control over their economies, their culture and their environment when tourism has penetrated their homelands. Merely restricting tourism cannot be the solution to the imbalance, because people's desire to see new places will not just disappear. Instead, communities in fragile environments must achieve greater control over tourism ventures in their regions; in order to balance their needs and aspirations with the demands of tourism. A growing number of communities are demonstrating that, with firm communal decision-making, this is possible. The critical question now is whether this can become the norm, rather than the exception.

Questions 1-3

Reading Passage 1 has six paragraphs, A-C.

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

List of Headings

- i The expansion of international tourism in recent years
- ii How local communities can balance their own needs with the demands of wilderness tourism
- iii Fragile regions and the reasons for the expansion of tourism there
- iv Traditional methods of food-supply in fragile regions
- v Some of the disruptive effects of wilderness tourism
- vi The economic benefits of mass tourism

1 Section A

2 Section B

3 Section C

Questions 4-9

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

In boxes 4-9 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

- 4 The low financial cost of setting up wilderness tourism makes it attractive to many countries.
5 Deserts, mountains and Arctic regions are examples of environments that are both ecologically and culturally fragile.
6 Wilderness tourism operates throughout the year in fragile areas.
7 The spread of tourism in certain hill-regions has resulted in a fall in the amount of food produced locally.
8 Traditional food-gathering in desert societies was distributed evenly over the year.
9 Government handouts do more damage than tourism does to traditional patterns of food-gathering.

Questions 10-13

Choose **ONE WORD** from Reading Passage 1 for each answer.

Write your answers in boxes 10-13 on your answer sheet.

The positive ways in which some local communities have responded to tourism	
People/ Location	Activity
Swiss Pays d'Enhaut	Revived production of (10)
Arctic communities	Operate (11) businesses
Acoma and San Ildefonso	Produce and sell (12)
Navajo and Hopi Activity	Produce and sell (13)

SECTION 2

Flawed Beauty: the problem with toughened glass

On 2nd August 1999, a particularly hot day in the town of Cirencester in the UK, a large pane of toughened glass in the roof of a shopping centre at Bishops Walk shattered without warning and fell from its frame. When fragments were analysed by experts at the giant glass manufacturer Pilkington, which had made the pane, they found that minute crystals of nickel sulphide trapped inside the glass had almost certainly caused the failure.

'The glass industry is aware of the issue,' says Brian Waldron, chairman of the standards committee at the Glass and Glazing Federation, a British trade association, and standards development officer at Pilkington. But he insists that cases are few and far between. 'It's a very rare phenomenon,' he says.

Others disagree. 'On average I see about one or two buildings a month suffering from nickel sulphide related failures,' says Barrie Josie, a consultant engineer involved in the Bishops Walk investigation. Other experts tell of similar experiences. Tony Wilmott of London-based consulting engineers Sandberg, and Simon Armstrong at CladTech Associates in Hampshire both say they know of

hundreds of cases. 'What you hear is only the tip of the iceberg,' says Trevor Ford, a glass expert at Resolve Engineering in Brisbane, Queensland. He believes the reason is simple: 'No-one wants bad press.'

Toughened glass is found everywhere, from cars and bus shelters to the windows, walls and roofs of thousands of buildings around the world. It's easy to see why. This glass has five times the strength of standard glass, and when it does break it shatters into tiny cubes rather than large, razor-sharp shards. Architects love it because large panels can be bolted together to make transparent walls, and turning it into ceilings and floors is almost as easy.

It is made by heating a sheet of ordinary glass to about 620°C to soften it slightly, allowing its structure to expand, and then cooling it rapidly with jets of cold air.

This causes the outer layer of the pane to contract and solidify before the interior. When the interior finally solidifies and shrinks, it exerts a pull on the outer layer that leaves it in permanent compression and produces a tensile force inside the glass. As cracks propagate best in materials under tension, the compressive force on the surface must be overcome before the pane will break, making it more resistant to cracking.

The problem starts when glass contains nickel sulphide impurities. Trace amounts of nickel and sulphur are usually present in the raw materials used to make glass, and nickel can also be introduced by fragments of nickel alloys falling into the molten glass. As the glass is heated, these atoms react to form tiny crystals of nickel sulphide. Just a tenth of a gram of nickel in the furnace can create up to 50,000 crystals.

These crystals can exist in two forms: a dense form called the alpha phase, which is stable at high temperatures, and a less dense form called the beta phase, which is stable at room temperatures. The high temperatures used in the toughening process convert all the crystals to the dense, compact alpha form. But the subsequent cooling is so rapid that the crystals don't have time to change back to the beta phase. This leaves unstable alpha crystals in the glass, primed like a coiled spring, ready to revert to the beta phase without warning.

When this happens, the crystals expand by up to 4%. And if they are within the central, tensile region of the pane, the stresses this unleashes can shatter the whole sheet. The time that elapses before failure occurs is unpredictable. It could happen just months after manufacture, or decades later, although if the glass is heated – by sunlight, for example – the process is speeded up. Ironically, says Graham Dodd, of consulting engineers Arup in London, the oldest pane of toughened glass known to have failed due to nickel sulphide inclusions was in Pilkington's glass research building in Lathom, Lancashire. The pane was 27 years old.

Data showing the scale of the nickel sulphide problem is almost impossible to find. The picture is made more complicated by the fact that these crystals occur in batches. So even if, on average, there is only one inclusion in 7 tonnes of glass, if you experience one nickel sulphide failure in your building, that probably means you've got a problem in more than one pane. Josie says that in the last decade he has worked on over 15 buildings with the number of failures into double figures.

One of the worst examples of this is Waterfront Place, which was completed in 1990. Over the following decade the 40 storey Brisbane block suffered a rash of failures. Eighty panes of its toughened glass shattered due to inclusions before experts were finally called in. John Barry, an expert in nickel sulphide contamination at the University of Queensland, analysed every glass pane in the building. Using a studio camera, a photographer went up in a cradle to take photos of every

pane. These were scanned under a modified microfiche reader for signs of nickel sulphide crystals. 'We discovered at least another 120 panes with potentially dangerous inclusions which were then replaced,' says Barry. 'It was a very expensive and time-consuming process that took around six months to complete.' Though the project cost A\$1.6 million (nearly £700,000), the alternative – re-cladding the entire building – would have cost ten times as much.

Questions 14-17

Look at the following people and the list of statements below.

Match each person with the correct statement.

Write the correct letter A-H in boxes 14-17 on your answer sheet.

14 Brian Waldron

15 Trevor Ford

16 Graham Dodd

17 John Barry

List of Statements

A suggests that publicity about nickel sulphide failure has been suppressed

B regularly sees cases of nickel sulphide failure

C closely examined all the glass in one building

D was involved with the construction of Bishops Walk

E recommended the rebuilding of Waterfront Place

F thinks the benefits of toughened glass are exaggerated

G claims that nickel sulphide failure is very unusual

H refers to the most extreme case of delayed failure

Questions 18-23

Complete the summary with the list of words A-P below.

Write your answers in boxes 18-23 on your answer sheet.

Toughened Glass

Toughened glass is favoured by architects because it is much stronger than ordinary glass, and the fragments are not as (18) when it breaks. However, it has one disadvantage: it can shatter (19) This fault is a result of the manufacturing process. Ordinary glass is first heated, then cooled very (20)

The outer layer (21) before the inner layer, and the tension between the two layers which is created because of this makes the glass stronger. However, if the glass contains nickel sulphide impurities, crystals of nickel sulphide are formed. These are unstable, and can expand suddenly, particularly if the weather is (22)..... If this happens, the pane of glass may break. The frequency with which such problems occur is (23) by glass experts.

Furthermore, the crystals cannot be detected without sophisticated equipment.

A numerous	B detected	C quickly	D agreed
E warm	F sharp	G expands	H slowly
I unexpectedly	J removed	K contracts	L disputed
M cold	N moved	O small	P calculated

Questions 24-26

Do the following statements agree with the information given in Reading 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

24 Little doubt was expressed about the reason for the Bishops Walk accident.

25 Toughened glass has the same appearance as ordinary glass.

26 There is plenty of documented evidence available about the incidence of nickel sulphide failure.

SECTION 3

The effects of light on plant and animal species

Light is important to organisms for two different reasons. Firstly it is used as a cue for the timing of daily and seasonal rhythms in both plant and animals, and secondly it is used to assist growth in plants.

Breeding in most organisms occurs during a part of the year only, and so a reliable cue is needed to trigger breeding behaviour. Day length is an excellent cue, because it provides a perfectly predictable pattern of change within the year. In the temperate zone in spring, temperatures fluctuate greatly from day to day, but day length increases steadily by a predictable amount. The seasonal impact of day length on physiological responses is called photoperiodism, and the amount of experimental evidence for this phenomenon is considerable. For example, some species of birds' breeding can be induced even in midwinter simply by increasing day length artificially (Wolfson 1964). Other examples of photoperiodism occur in plants. A short-day plant flowers when the day is less than a certain critical length. A long-day plant flowers after a certain critical day length is exceeded. In both cases the critical day length differs from species to species. Plant which flower after a period of vegetative growth, regardless of photoperiod, are known as day-neutral plants.

Breeding seasons in animals such as birds have evolved to occupy the part of the year in which offspring have the greatest chances of survival. Before the breeding season begins, food reserves must be built up to support the energy cost of reproduction, and to provide for young birds both when they are in the nest and after fledging. Thus many temperate-zone birds use the increasing day lengths in spring as a cue to begin the nesting cycle, because this is a point when adequate food resources will be assured.

The adaptive significance of photoperiodism in plant is also clear. Short-day plant that flower in spring in the temperate zone are adapted to maximising seedling growth during the growing season. Long-day plants are adapted for situations that require fertilization by insects, or a long period of seed ripening. Short-day plant that flower in the autumn in the temperate zone are able to build up food reserves over the growing season and over winter as seeds. Day-neutral plant have an evolutionary advantage when the connection between the favourable period for reproduction and

day length is much less certain. For example, desert annuals germinate, flower and seed whenever suitable rainfall occurs, regardless of the day length.

The breeding season of some plants can be delayed to extraordinary lengths. Bamboos are perennial grasses that remain in a vegetative state for many years and then suddenly flower, fruit and die (Evans 1976). Every bamboo of the species *Chusquea abietifolia* on the island of Jamaica flowered, set seed and died during 1884. The next generation of bamboo flowered and died between 1916 and 1918, which suggests a vegetative cycle of about 31 years. The climatic trigger for this flowering cycle is not yet known, but the adaptive significance is clear. The simultaneous production of masses of bamboo seeds (in some cases lying 12 to 15 centimetres deep on the ground) is more than all the seed-eating animals can cope with at the time, so that some seeds escape being eaten and grow up to form the next generation (Evans 1976).

The second reason light is important to organisms is that it is essential for photosynthesis. This is the process by which plants use energy from the sun to convert carbon from soil or water into organic material for growth. The rate of photosynthesis in a plant can be measured by calculating the rate of its uptake of carbon. There is a wide range of photosynthetic responses of plants to variations in light intensity. Some plants reach maximal photosynthesis at one-quarter full sunlight, and others, like sugarcane, never reach a maximum, but continue to increase photosynthesis rate as light intensity rises.

Plants in general can be divided into two groups: shade-tolerant species and shade-intolerant species. This classification is commonly used in forestry and horticulture. Shade-tolerant plants have lower photosynthetic rates and hence have lower growth rates than those of shade-intolerant species. Plant species become adapted to living in a certain kind of habitat, and in the process evolve a series of characteristics that prevent them from occupying other habitats. Grime (1966) suggests that light may be one of the major components directing these adaptations. For example, eastern hemlock seedlings are shade-tolerant. They can survive in the forest understorey under very low light levels because they have a low photosynthetic rate.

Questions 27-33

Do the following statements agree with the information given in Reading Passage 3?

In boxes 27-33 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

27 There is plenty of scientific evidence to support photoperiodism.

28 Some types of bird can be encouraged to breed out of season.

29 Photoperiodism is restricted to certain geographic areas.

30 Desert annuals are examples of long-day plants.

31 Bamboos flower several times during their life cycle.

32 Scientists have yet to determine the cue for *Chusquea abietifolia*'s seasonal rhythm.

33 Eastern hemlock is a fast-growing plant.

Questions 34-40

Complete the sentences.

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

Write your answers in boxes 34-40 on your answer sheet.

34 Day length is a useful cue for breeding in areas where are unpredictable.

35 Plants which do not respond to light levels are referred to as

36 Birds in temperate climates associate longer days with nesting and the availability of

.....

37 Plants that flower when days are long often depend on to help them reproduce.

38 Desert annuals respond to as a signal for reproduction.

39 There is no limit to the photosynthetic rate in plants such as

40 Tolerance to shade is one criterion for the of plants in forestry and horticulture.



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Reading Mock Test 2 Answers:

1. iii
2. v
3. ii
4. yes
5. yes
6. no
7. yes
8. no
9. not given
10. cheese
11. tourism
12. pottery
13. jewellery
14. G
15. A
16. H
17. C
18. sharp
19. unexpectedly
20. quickly
21. contracts
22. warm
23. disputed
24. true
25. not given
26. false
27. true

- 28. true**
- 29. not given**
- 30. false**
- 31. false**
- 32. true**
- 33. false**
- 34. temperatures**
- 35. day-neutral plants**
- 36. food resources**
- 37. insects**
- 38. suitable rainfall**
- 39. sugarcane**
- 40. classification**

READING MOCK TEST 3

SECTION 1

(Source : Cambridge Guide to IELTS)

ADAM'S WINE

A Water is the giver and, at the same time, the taker of life. It covers most of the surface of the planet we live on and features large in the development of the human race. On present predictions, it is an element that is set to assume even greater significance.

B Throughout history, water has had a huge impact on our lives. Humankind has always had a rather ambiguous relationship with water, on the one hand receiving enormous benefit from it, not just as a drinking source, but as a provider of food and a means whereby to travel and to trade. But forced to live close to water in order to survive and to develop, the relationship has not always been peaceful or beneficial. In fact, it has been quite the contrary. What has essentially been a necessity for survival has turned out in many instances to have a very destructive and life-threatening side.

C Through the ages, great floods alternated with long periods of drought have assaulted people and their environment, hampering their fragile fight for survival. The dramatic changes to the environment that are now a feature of our daily news are not exactly new: fields that were once lush and fertile are now barren; lakes and rivers that were once teeming with life are now long gone; savannah has been turned to desert. What perhaps is new is our naive wonder when faced with the forces of nature.

D Today, we are more aware of climatic changes around the world. Floods in far-flung places are instant news for the whole world. Perhaps these events make us feel better as we face the destruction of our own property by floods and other natural disasters.

E In 2002, many parts of Europe suffered severe flood damage running into billions of euros. Properties across the continent collapsed into the sea as waves pounded the coastline wreaking havoc with sea defences. But it was not just the seas. Rivers swollen by heavy rains and by the effects of deforestation carried large volumes of water that wrecked many communities.

F Building stronger and more sophisticated river defences against flooding is the expensive short-term answer. There are simpler ways. Planting trees in highland areas, not just in Europe but in places like the Himalayas, to protect people living in low-lying regions like the Ganges Delta, is a cheaper and more attractive solution. Progress is already being made in convincing countries that the emission of carbon dioxide and other greenhouse gases is causing considerable damage to the environment. But more effort is needed in this direction.

G And the future? If we are to believe the forecasts, it is predicted that two-thirds of the world population will be without fresh water by 2025. But for a growing number of regions of the world the future is already with us. While some areas are devastated by flooding, scarcity of water in many other places is causing conflict. The state of Texas in the United States of America is suffering a shortage of water with the Rio Grande failing to reach the Gulf of Mexico for the first time in 50 years in the spring of 2002, pitting region against region as they vie for water sources. With many parts of the globe running dry through drought and increased water consumption, there is now talk of water being the new oil.

H Other doom-laden estimates suggest that, while tropical areas will become drier and uninhabitable, coastal regions and some low-lying islands will in all probability be submerged by the

sea as the polar ice caps melt. Popular exotic destinations now visited by countless tourists will become no-go areas. Today's holiday hotspots of southern Europe and elsewhere will literally become hotspots – too hot to live in or visit. With the current erratic behaviour of the weather, it is difficult not to subscribe to such despair.

Some might say that this despondency is ill-founded, but we have had ample proof that there is something not quite right with the climate. Many parts of the world have experienced devastating flooding. As the seasons revolve, the focus of the destruction moves from one continent to another. The impact on the environment is alarming and the cost to life depressing. It is a picture to which we will need to become accustomed.

Questions 1-8

Reading Passage 1 has eight paragraphs labelled A-I.

Choose the most suitable headings for paragraphs B-I from the list of headings below.

List of Headings

- i Environmental change has always been with us
- ii The scarcity of water
- iii Rivers and seas cause damage
- iv Should we be despondent? Or realistic?
- v Disasters caused by the climate make us feel better
- vi Water, the provider of food
- vii What is water?
- viii How to solve flooding
- ix Far-flung flooding
- x Humans' relationship with water
- xi The destructive force of water in former times
- xii Flooding in the future
- xiii A pessimistic view of the future

- 1 Paragraph B
- 2 Paragraph C
- 3 Paragraph D
- 4 Paragraph E
- 5 Paragraph F
- 6 Paragraph G
- 7 Paragraph H
- 8 Paragraph I

Questions 9-15

Choose the appropriate letters A-D and write them in boxes 9-15 on your answer sheet.

- 9 The writer believes that water
- A is gradually becoming of greater importance
 - B will have little impact on our lives in future
 - C is something we will need more than anything else
 - D will have even greater importance in our lives in the future

10 Humankind's relationship with water has been

- A two-sided
- B one-sided
- C purely one of great benefit
- D fairly frightening

11 The writer suggests that

- A we are in awe of the news we read and see on TV every day.
- B change to the environment leaves us speechless.
- C we should not be in awe of the news we read and see on TV every day.
- D our surprise at the environmental change brought about by nature is something new.

12 According to the text, planting trees

- A has to be co-ordinated internationally.
- B is more expensive than building sea and river defences.
- C is a less expensive answer to flooding than building river defences.
- D is not an answer to the problem of flooding in all regions.

13 By 2025, it is projected that

- A at least half the world population will have fresh water.
- B the majority of the world population will have fresh water.
- C one-third of the world population will have fresh water.
- D fresh water will only be available to half of the world population.

14 According to the text, in the future low-lying islands

- A will still be habitable
- B will not be under water
- C are likely to be under water
- D will probably not be under water

15 According to the writer,

- A people do not need to get used to environmental damage.
- B people will need to get used to climate changes that cause environmental damage.
- C people are now more used to environmental damage than they have been in the past.
- D the general despondency about environmental changes is ill-founded.

SECTION 2

Reading Passage 2

Is it any wonder that there are teacher shortages? Daily, the press carries reports of schools going on four-day weeks simply because they cannot recruit enough teachers. But why? There is no straightforward answer. For a start, fewer students are entering teacher-training courses when they leave school. But can you blame young people after the barracking faced by the teaching profession in the UK over the last decade? The attack, relentless in the extreme, has been on several fronts. Government inspectors, by accident or design, have been feeding the media a constant stream of negative information about the teaching establishments in this country. Teachers also come in for a lot of flak from politicians. And the government wonders why there are problems in schools.

The government's obvious contempt for the teaching profession was recently revealed by one of the most powerful people in government when she referred to schools as 'bog standard

comprehensives'. Hardly the sort of comment to inspire parents or careers advisers seeking to direct young people's future. Would you want to spend your working life in a dead-end profession? The government doesn't seem to want you to either.

On the administrative side, most teachers are weighed down by an increasing flow of bureaucracy. Cynicism would have me believe that this stops teachers from fomenting dissent as they are worn out by useless administrative exercises. Most teachers must then also be cynics!

Teacher bashing has, unfortunately, spread to youngsters in schools as the recent catalogue of physical attacks on teachers will testify. If grown-ups have no respect for the teaching profession, young people can hardly be expected to think any differently. The circle is then squared when, as well as experienced, competent teachers being driven out of the profession by the increased pressure and stress; fewer students are applying for teacher-training courses.

Increased salaries are certainly welcome, but they are not the complete answer to a sector in crisis. Addressing the standing of the profession in the eyes of the public is crucial to encourage experienced teachers to remain in the classroom and to make it an attractive career option for potential teachers once again.

It might also be a good idea for the relevant ministers to go on a fact-finding mission and find out from teachers in schools, rather than relying overmuch on advisers, as to what changes could be brought about to improve the quality of the education service. Initiatives in the educational field surprisingly come from either politicians who know little about classroom practice or educational theorists who know even less, but are more dangerous because they work in the rarefied air of universities largely ignorant of classroom practice.

Making sure that nobody without recent classroom experience is employed as a teacher-trainer at any tertiary institution would further enhance the teaching profession. If someone does not have practical experience in the classroom, they cannot in all seriousness propound theories about it. Instead of being given sabbaticals to write books or papers, lecturers in teacher-training establishments should be made to spend a year at the blackboard or, these days, the whiteboard. This would give them practical insights into current classroom practice. Student teachers could then be given the chance to come and watch the specialists in the classroom: a much more worthwhile experience than the latter sitting thinking up ideas far removed from the classroom. Then we would have fewer initiatives like the recent government proposal to teach thinking in school. Prima facie, this is a laudable recommendation. But, as any practising teacher will tell you, this is done in every class. Perhaps someone needs to point out to the academic who thought up the scheme that the wheel has been around for some time.

In the educational field, there is surprisingly constant tension between the educational theorists and government officials on the one hand, who would like to see teachers marching in unison to some greater Utopian abstraction and, on the other, practising teachers. Any experienced classroom practitioner knows that the series of initiatives on teaching and learning that successive governments have tried to foist on schools and colleges do not work.

Questions 16-22

Complete the summary below of the first four paragraphs of Reading Passage 2.

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

Write your answers in boxes 16-22 on your answer sheet.

Is it surprising that there is a (16) of teachers? Schools do not have enough teachers, but what are the reasons for this? To begin with, fewer students are going into (17) after finishing school. But this is not young people's fault. The (18) of teaching has been under constant attack over the last ten years. The government's lack of respect for the profession is (19) Moreover, administratively, the flow of bureaucracy is (20) Even pupils in schools have no respect for those who teach them, as a (21) series of assaults on teachers shows. The growing strain and stress means that, as well as fewer applications for teacher-training courses, teachers who have experience and are (22) are also being driven out.

Questions 23-29

Do the following statements agree with the information given in Reading Passage 2?

In boxes 23-29 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 More students are entering teacher-training courses.

24 The government is right to be surprised that there are problems in schools.

25 Teachers are too weighed down by administrative duties to stir up trouble.

26 All teachers are cynics.

27 Politicians are not as dangerous as educational theorists, who know even less than the former about educational theory.

28 Any experienced classroom practitioner knows that the initiatives on teaching and learning that governments have tried to impose on schools do not work.

29 The government's attitude with regard to teachers is of great interest to the general public.

Question 30

Choose the appropriate letter A-D and write it in box 30 on your answer sheet.

30 Which one of the following is the most suitable title for the passage?

- A Politicians and teachers
- B A profession undervalued
- C Recruitment difficulties in the teaching profession
- D Teacher-training needs improvement

SECTION 3

Three Pieces Plus...

In one corner of the room is a mass of tangled rope suspended from the ceiling with some sections dangling to the floor; the first of three encountered pieces of work that have a resounding impact on the viewing public.

It stops one in one's tracks: how dare it be there – this mess of nothing! It is like arranged chaos: that is, the confused mixture of varying sizes of rope, dipped in latex, looks as though it might collapse in a heap on the floor at any moment. At the same time, it is held up and in place by a series of fine wires and hooks, giving it a strange sense of ... order.

A deliberate challenge to the forces of gravity. It is a shambles. It makes one laugh. It is play. It is drawing in the air! Maybe it can move or dance about! Yet, it is hardly there, like something imagined.

The materials are cheap and disposable. Impermanent, like ... the people looking at it. But it is very definitely present! It has a presence. You can see that people want to walk into it and become a part of it – but alas! The gallery guard is hovering nearby.

To the left of this piece, running along the wall, in two rows on top of each other, is a long series of lid-less boxes. They are mounted at average nose height and are made of fibreglass which gives them a shiny, almost moist, appearance. They are the colour of murky water, absorbing the gallery light with an opacity similar to that of mucus or tree gum.

They look as though they might be soft and malleable to touch, with their irregular edges and non-conforming sides. This gives the overall impression that they could fall in on themselves or slide down the wall. The structure is puzzlingly familiar, similar to things in the world, and yet it is not like anything in particular.

In the adjacent corner is the third piece, consisting of a collection of nine cylindrical open-ended objects, slit part way from end to end. They give the appearance of being randomly placed – some lying, some leaning on the wall or on each other-all seeming somehow to be related. Like the boxes, they are a multiple of each other. Made of fibreglass with a shiny surface they look almost like abandoned pods that had once been alive. The associations seem to jump around in one's head, running between sensations of delight and pleasure, violence and discomfort.

One has to bend down to be with them more. Driven by the desire to physically interact, one is almost forced to stoop further so that one can touch, or indeed taste, this intriguing surface; but no, the guard is there.

The visual language apparent in these artworks is unfamiliar, as is the artist, Eva Hesse. Her work is as exciting as it is disturbing. For many, Hesse's sculpture refers essentially to the body. This, perhaps, does not seem surprising when it is in relation to the body that women are generally assessed. Hesse died of a brain tumour in 1970 at the age of 34. It must be an inescapable inevitability, therefore, that her work was read in the context of its time where it has, until recently, been largely abandoned.

Given the influence of feminism on our cultural consciousness since that period, it seems paramount that we avoid, or at the very least attempt to avoid, those dramatic facts about her life and family history. We may then be freed from a limited and narrow translation of her art.

Hesse's work is much more ambiguous and funny than some rather literal readings would have us believe. Perhaps it is precisely because her use of metaphor in her work is so subtle that it escapes the one-line definitions we so love to employ.

We are now, more than ever, hungry for the cult of 'personality'. While Hesse and others before and since can more than fill that demand, we seem in danger of focusing on the life of the artist and not on the life of the art.

When looking at Hesse's sculpture, drawings and paintings, the most interesting and challenging aspects lie just there – within the work. And this must be the starting point for any interpretation, not her complex life or untimely death.

Questions 31-36

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

- 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

- 31 The first piece of Hesse's art has little effect on visitors to the gallery.
32 The order inherent in the first piece of Hesse's art is essential to the understanding of her work.
33 The second piece of art by Hesse is inferior in several significant ways to the first.
34 The second piece by Hesse has several design faults that attract the public.
35 The third piece of work arouses different emotions.
36 Of the three pieces of Hesse's work described, the first is the writer's favourite.

Question 37-40

Choose the appropriate letter A-D and write it in box 30 on your answer sheet.

37 According to the writer, Eva Hesse

- A** is not a well-known artist
B is very familiar, as is her work
C is not a good artist
D is strongly attracted by visual language

38 The writer concludes that

- A** Hesse's work is timeless
B the understanding of Hesse's work has until recently been interpreted only in the context of its time
C Hesse's work is a product of her time and is not relevant to the modern world
D Hesse's work is easy to read

39 The writer thinks that it is to define Hesse's work.

- A** not difficult
B essential
C not important
D not easy

40 In the present climate,

- A** we may lose sight of Hesse's art and focus on her life.
B personality is very important.
C art cults are in vogue.
D we may lose sight of Hesse's life and focus on her art.

Reading Mock Test 3 Answers:

1. x

2. i

3. v

4. iii

5. viii

6. ii

7. xiii

8. iv

9. D

10. A

11. D

12. C

13. C

14. C

15. B

16. shortage

17. teacher-training

18. profession

19. obvious

20. increasing

21. recent

22. competent

23. no

24. no

25. not given

26. no

27. yes

28. yes

29. not given

30. B

31. no

32. not given

33. not given

34. not given

35. yes

36. not given

37. A

38. B

39. D

40. A

READING MOCK TEST 4

SECTION 1

(Source : Cambridge Guide to IELTS)

AUSTRALIA'S SPORTING SUCCESS

A They play hard, they play often, and they play to win. Australian sports teams win more than their fair share of titles, demolishing rivals with seeming ease. How do they do it? A big part of the secret is an extensive and expensive network of sporting academies underpinned by science and medicine. At the Australian Institute of Sport (AIS), hundreds of youngsters and pros live and train under the eyes of coaches. Another body, the Australian Sports Commission (ASC), finances programmes of excellence in a total of 96 sports for thousands of sportsmen and women. Both provide intensive coaching, training facilities and nutritional advice.

B Inside the academies, science takes centre stage. The AIS employs more than 100 sports scientists and doctors, and collaborates with scores of others in universities and research centres. AIS scientists work across a number of sports, applying skills learned in one – such as building muscle strength in golfers – to others, such as swimming and squash. They are backed up by technicians who design instruments to collect data from athletes. They all focus on one aim: winning. 'We can't waste our time looking at ethereal scientific questions that don't help the coach work with an athlete and improve performance.' says Peter Fricker, chief of science at AIS.

C A lot of their work comes down to measurement – everything from the exact angle of a swimmers dive to the second-by-second power output of a cyclist. This data is used to wring improvements out of athletes. The focus is on individuals, tweaking performances to squeeze an extra hundredth of a second here, an extra millimetre there. No gain is too slight to bother with. It's the tiny, gradual improvements that add up to world-beating results. To demonstrate how the system works, Bruce Mason at AIS shows off the prototype of a 3D analysis tool for studying swimmers. A wire-frame model of a champion swimmer slices through the water, her arms moving in slow motion. Looking side-on, Mason measures the distance between strokes. From above, he analyses how her spine swivels. When fully developed, this system will enable him to build a biomechanical profile for coaches to use to help budding swimmers. Mason's contribution to sport also includes the development of the SWAN (SWimming ANalysis) system now used in Australian national competitions. It collects images from digital cameras running at 50 frames a second and breaks down each part of a swimmers performance into factors that can be analysed individually – stroke length, stroke frequency, average duration of each stroke, velocity, start, lap and finish times, and so on. At the end of each race, SWAN spits out data on each swimmer.

D 'Take a look.' says Mason, pulling out a sheet of data. He points out the data on the swimmers in second and third place, which shows that the one who finished third actually swam faster. So why did he finish 35 hundredths of a second down? 'His turn times were 44 hundredths of a second behind the other guy,' says Mason. 'If he can improve on his turns, he can do much better.' This is the kind of accuracy that AIS scientists' research is bringing to a range of sports. With the Cooperative Research Centre for Micro Technology in Melbourne, they are developing unobtrusive sensors that will be embedded in an athlete's clothes or running shoes to monitor heart rate, sweating, heat production or any other factor that might have an impact on an athlete's ability to run. There's more to it than simply measuring performance. Fricker gives the example of athletes who may be down with coughs and colds 11 or 12 times a year. After years of experimentation, AIS and the University of Newcastle in New South Wales developed a test that measures how much of

the immune-system protein immunoglobulin A is present in athletes' saliva. If IgA levels suddenly fall below a certain level, training is eased or dropped altogether. Soon, IgA levels start rising again, and the danger passes. Since the tests were introduced, AIS athletes in all sports have been remarkably successful at staying healthy.

E Using data is a complex business. Well before a championship, sports scientists and coaches start to prepare the athlete by developing a 'competition model', based on what they expect will be the winning times. 'You design the model to make that time.' says Mason. 'A start of this much, each free-swimming period has to be this fast, with a certain stroke frequency and stroke length, with turns done in these times'. All the training is then geared towards making the athlete hit those targets, both overall and for each segment of the race. Techniques like these have transformed Australia into arguably the world's most successful sporting nation.

F Of course, there's nothing to stop other countries copying – and many have tried. Some years ago, the AIS unveiled coolant-lined jackets for endurance athletes. At the Atlanta Olympic Games in 1996, these sliced as much as two per cent off cyclists' and rowers times. Now everyone uses them. The same has happened to the altitude tent', developed by AIS to replicate the effect of altitude training at sea level. But Australia's success story is about more than easily copied technological fixes, and up to now no nation has replicated its all-encompassing system.

Questions 1-7

Reading Passage 1 has six sections, A-F.

Which paragraph contains the following information?

Write the correct letter A-F in boxes 1-7 on your answer sheet.

NB You may use any letter more than once

- 1 a reference to the exchange of expertise between different sports
- 2 an explanation of how visual imaging is employed in investigations
- 3 a reason for narrowing the scope of research activity
- 4 how some AIS ideas have been reproduced
- 5 how obstacles to optimum achievement can be investigated
- 6 an overview of the funded support of athletes
- 7 how performance requirements are calculated before an event

Questions 8-11

Classify the following techniques according to whether the writer states they

- A** are currently exclusively used by Australians
- B** will be used in the future by Australians
- C** are currently used by both Australians and their rivals

Write the correct letter A, B, C or D in boxes 8-11 on your answer sheet.

- 8 cameras
- 9 sensors
- 10 protein tests
- 11 altitude tents

Questions 12 and 13

Choose **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the Reading Passage 1 for each answer.

Write your answers in boxes 12 and 13 on your answer sheet.

12 What is produced to help an athlete plan their performance in an event?

13 By how much did some cyclists' performance improve at the 1996 Olympic Games?

SECTION 2

DELIVERING THE GOODS

A International trade is growing at a startling pace. While the global economy has been expanding at a bit over 3% a year, the volume of trade has been rising at a compound annual rate of about twice that. Foreign products, from meat to machinery, play a more important role in almost every economy in the world, and foreign markets now tempt businesses that never much worried about sales beyond their nation's borders.

B What lies behind this explosion in international commerce? The general worldwide decline in trade barriers, such as customs duties and import quotas, is surely one explanation. The economic opening of countries that have traditionally been minor players is another. But one force behind the import-export boom has passed all but unnoticed: the rapidly falling cost of getting goods to market. Theoretically, in the world of trade, shipping costs do not matter. Goods, once they have been made, are assumed to move instantly and at no cost from place to place. The real world, however, is full of frictions. Cheap labour may make Chinese clothing competitive in America, but if delays in shipment tie up working capital and cause winter coats to arrive in spring, trade may lose its advantages.

C At the turn of the 20th century, agriculture and manufacturing were the two most important sectors almost everywhere, accounting for about 70% of total output in Germany, Italy and France, and 40-50% in America, Britain and Japan. International commerce was therefore dominated by raw materials, such as wheat, wood and iron ore, or processed commodities, such as meat and steel. But these sorts of products are heavy and bulky and the cost of transporting them relatively high.

D Countries still trade disproportionately with their geographic neighbours. Over time, however, world output has shifted into goods whose worth is unrelated to their size and weight. Today, it is finished manufactured products that dominate the flow of trade, and, thanks to technological advances such as lightweight components, manufactured goods themselves have tended to become lighter and less bulky. As a result, less transportation is required for every dollar's worth of imports or exports.

E To see how this influences trade, consider the business of making disk drives for computers. Most of the world's disk-drive manufacturing is concentrated in South-east Asia. This is possible only because disk drives, while valuable, are small and light and so cost little to ship. Computer manufacturers in Japan or Texas will not face hugely bigger freight bills if they import drives from Singapore rather than purchasing them on the domestic market. Distance therefore poses no obstacle to the globalisation of the disk-drive industry.

F This is even more true of the fast-growing information industries. Films and compact discs cost little to transport, even by aeroplane. Computer software can be 'exported' without ever loading it onto a ship, simply by transmitting it over telephone lines from one country to another, so freight rates and cargo-handling schedules become insignificant factors in deciding where to make the

product. Businesses can locate based on other considerations, such as the availability of labour, while worrying less about the cost of delivering their output.

G In many countries deregulation has helped to drive the process along. But, behind the scenes, a series of technological innovations known broadly as containerisation and inter-modal transportation has led to swift productivity improvements in cargo-handling. Forty years ago, the process of exporting or importing involved a great many stages of handling, which risked portions of the shipment being damaged or stolen along the way. The invention of the container crane made it possible to load and unload containers without capsizing the ship and the adoption of standard container sizes allowed almost any box to be transported on any ship. By 1967, dual-purpose ships, carrying loose cargo in the hold and containers on the deck, were giving way to all-container vessels that moved thousands of boxes at a time.

H The shipping container transformed ocean shipping into a highly efficient, intensely competitive business. But getting the cargo to and from the dock was a different story. National governments, by and large, kept a much firmer hand on truck and railroad tariffs than on charges for ocean freight. This started changing, however, in the mid-1970s, when America began to deregulate its transportation industry. First airlines, then road hauliers and railways, were freed from restrictions on what they could carry, where they could haul it and what price they could charge. Big productivity gains resulted. Between 1985 and 1996, for example, America's freight railways dramatically reduced their employment, trackage, and their fleets of locomotives – while increasing the amount of cargo they hauled. Europe's railways have also shown marked, albeit smaller, productivity improvements.

I In America the period of huge productivity gains in transportation may be almost over, but in most countries the process still has far to go. State ownership of railways and airlines, regulation of freight rates and toleration of anti-competitive practices, such as cargo-handling monopolies, all keep the cost of shipping unnecessarily high and deter international trade. Bringing these barriers down would help the world's economies grow even closer.

Questions 14-17

Reading Passage 2 has six sections, A-I.

Which paragraph contains the following information?

Write the correct letter A-I in boxes 14-17 on your answer sheet.

14 a suggestion for improving trade in the future

15 the effects of the introduction of electronic delivery

16 the similar cost involved in transporting a product from abroad or from a local supplier

17 the weakening relationship between the value of goods and the cost of their delivery

Questions 18-22

Do the following statements agree with the information given in Reading Passage 2?

In boxes 18-22 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

18 International trade is increasing at a greater rate than the world economy.

19 Cheap labour guarantees effective trade conditions.

- 20 Japan imports more meat and steel than France.
- 21 Most countries continue to prefer to trade with nearby nations.
- 22 Small computer components are manufactured in Germany.

Questions 23-26

Complete the summary using the list of words, A-K, below.
Write the correct letter, A-K, in boxes 23-26 on your answer sheet.

THE TRANSPORT REVOLUTION

Modern cargo-handling methods have had a significant effect on (23) as the business of moving freight around the world becomes increasingly streamlined. Manufacturers of computers, for instance, are able to import (24) from overseas, rather than having to rely on a local supplier. The introduction of (25)..... has meant that bulk cargo can be safely and efficiently moved over long distances. While international shipping is now efficient, there is still a need for governments to reduce (26) in order to free up the domestic cargo sector.

A tariffs	B components	C container ships	D output
E employees	F insurance costs	G trade	H freight
I fares	J software	K international standards	

SECTION 3

Climate change and the Inuit

A Unusual incidents are being reported across the Arctic. Inuit families going off on snowmobiles to prepare their summer hunting camps have found themselves cut off from home by a sea of mud, following early thaws. There are reports of igloos losing their insulating properties as the snow drips and refreezes, of lakes draining into the sea as permafrost melts, and sea ice breaking up earlier than usual, carrying seals beyond the reach of hunters. Climate change may still be a rather abstract idea to most of us, but in the Arctic it is already having dramatic effects – if summertime ice continues to shrink at its present rate, the Arctic Ocean could soon become virtually ice-free in summer. The knock-on effects are likely to include more warming, cloudier skies, increased precipitation and higher sea levels. Scientists are increasingly keen to find out what’s going on because they consider the Arctic the ‘canary in the mine’ for global warming – a warning of what’s in store for the rest of the world.

B For the Inuit the problem is urgent. They live in precarious balance with one of the toughest environments on earth. Climate change, whatever its causes, is a direct threat to their way of life. Nobody knows the Arctic as well as the locals, which is why they are not content simply to stand back and let outside experts tell them what’s happening. In Canada, where the Inuit people are jealously guarding their hard-won autonomy in the country’s newest territory, Nunavut, they believe their best hope of survival in this changing environment lies in combining their ancestral knowledge with the best of modern science. This is a challenge in itself.

C The Canadian Arctic is a vast, treeless polar desert that’s covered with snow for most of the year. Venture into this terrain and you get some idea of the hardships facing anyone who calls this home. Farming is out of the question and nature offers meagre pickings. Humans first settled in the Arctic a mere 4,500 years ago, surviving by exploiting sea mammals and fish. The environment tested them

to the limits: sometimes the colonists were successful, sometimes they failed and vanished. But around a thousand years ago, one group emerged that was uniquely well adapted to cope with the Arctic environment. These Thule people moved in from Alaska, bringing kayaks, sleds, dogs, pottery and iron tools. They are the ancestors of today's Inuit people.

D Life for the descendants of the Thule people is still harsh. Nunavut is 1.9 million square kilometres of rock and ice, and a handful of islands around the North Pole. It's currently home to 2,500 people, all but a handful of them indigenous Inuit. Over the past 40 years, most have abandoned their nomadic ways and settled in the territory's 28 isolated communities, but they still rely heavily on nature to provide food and clothing.

Provisions available in local shops have to be flown into Nunavut on one of the most costly air networks in the world, or brought by supply ship during the few ice-free weeks of summer. It would cost a family around £7,000 a year to replace meat they obtained themselves through hunting with imported meat. Economic opportunities are scarce, and for many people state benefits are their only income.

E While the Inuit may not actually starve if hunting and trapping are curtailed by climate change, there has certainly been an impact on people's health. Obesity, heart disease and diabetes are beginning to appear in a people for whom these have never before been problems. There has been a crisis of identity as the traditional skills of hunting, trapping and preparing skins have begun to disappear. In Nunavut's 'igloo and email' society, where adults who were born in igloos have children who may never have been out on the land, there's a high incidence of depression.

F With so much at stake, the Inuit are determined to play a key role in teasing out the mysteries of climate change in the Arctic. Having survived there for centuries, they believe their wealth of traditional knowledge is vital to the task. And Western scientists are starting to draw on this wisdom, increasingly referred to as 'Inuit Qaujimajatuqangit', or IQ. 'In the early days scientists ignored us when they came up here to study anything. They just figured these people don't know very much so we won't ask them,' says John Amagoalik, an Inuit leader and politician. 'But in recent years IQ has had much more credibility and weight.' In fact it is now a requirement for anyone hoping to get permission to do research that they consult the communities, who are helping to set the research agenda to reflect their most important concerns. They can turn down applications from scientists they believe will work against their interests, or research projects that will impinge too much on their daily lives and traditional activities.

G Some scientists doubt the value of traditional knowledge because the occupation of the Arctic doesn't go back far enough. Others, however, point out that the first weather stations in the far north date back just 50 years. There are still huge gaps in our environmental knowledge, and despite the scientific onslaught, many predictions are no more than best guesses. IQ could help to bridge the gap and resolve the tremendous uncertainty about how much of what we're seeing is natural capriciousness and how much is the consequence of human activity.

Questions 27-32

Choose the correct heading for paragraphs B-G from the list of headings below.

List of Headings

- i The reaction of the Inuit community to climate change
- ii Understanding of climate change remains limited
- iii Alternative sources of essential supplies

- iv Respect for Inuit opinion grows
- v A healthier choice of food
- vi A difficult landscape
- vii Negative effects on well-being
- viii Alarm caused by unprecedented events in the Arctic
- ix The benefits of an easier existence

27 Paragraph B

29 Paragraph D

31 Paragraph F

28 Paragraph C

30 Paragraph E

32 Paragraph G

Questions 33-40

Complete the summary of paragraphs C and D below.

Choose **NO MORE THAN TWO WORDS** from paragraphs C and D for each answer.

If you visit the Canadian Arctic, you immediately appreciate the problems faced by people for whom this is home. It would clearly be impossible for the people to engage in (33) as a means of supporting themselves. For thousands of years they have had to rely on catching (34) and (35) as a means of sustenance. The harsh surroundings saw many who tried to settle there pushed to their limits, although some were successful. The (36) people were an example of the latter and for them the environment did not prove unmanageable. For the present inhabitants, life continues to be a struggle. The territory of Nunavut consists of little more than ice, rock and a few (37) In recent years, many of them have been obliged to give up their (38) lifestyle, but they continue to depend mainly on (39) their food and clothes. (40) produce is particularly expensive.

Reading Mock Test 4 Answers:

1. B
2. C
3. B
4. F
5. D
6. A
7. E
8. A
9. B
10. A
11. C
12. competition model
13. 2%
14. I
15. F
16. E
17. D
18. true
19. false
20. not given
21. true
22. not given
23. trade
24. components
25. container ships
26. tariffs
27. i

28. vi

29. iii

30. vii

31. iv

32. ii

33. farming

34. sea mammals

35. fish

36. thule

37. islands

38. nomadic

39. nature

40. imported

READING MOCK TEST 5

SECTION 1

(Source : Cambridge Guide to IELTS)

Networking

Networking as a concept has acquired what is in all truth an unjustified air of modernity. It is considered in the corporate world as an essential tool for the modern businessperson, as they trot round the globe drumming up business for themselves or a corporation. The concept is worn like a badge of distinction, and not just in the business world.

People can be divided basically into those who keep knowledge and their personal contacts to themselves, and those who are prepared to share what they know and indeed their friends with others. A person who is insecure, for example someone who finds it difficult to share information with others and who is unable to bring people, including friends, together does not make a good networker. The classic networker is someone who is strong enough within themselves to connect different people including close friends with each other. For example, a businessman or an academic may meet someone who is likely to be a valuable contact in the future, but at the moment that person may benefit from meeting another associate or friend.

It takes quite a secure person to bring these people together and allow a relationship to develop independently of himself. From the non-networker's point of view such a development may be intolerable, especially if it is happening outside their control. The unfortunate thing here is that the initiator of the contact, if he did but know it, would be the one to benefit most. And why?

Because all things being equal, people move within circles and that person has the potential of being sucked into ever growing spheres of new contacts. It is said that, if you know eight people, you are in touch with everyone in the world. It does not take much common sense to realize the potential for any kind of venture as one is able to draw on the experience of more and more people.

Unfortunately, making new contacts, business or otherwise, while it brings success, does cause problems. It enlarges the individual's world. This is in truth not altogether a bad thing, but it puts more pressure on the networker through his having to maintain an ever larger circle of people. The most convenient way out is, perhaps, to cull old contacts, but this would be anathema to our networker as it would defeat the whole purpose of networking. Another problem is the reaction of friends and associates. Spreading oneself thinly gives one less time for others who were perhaps closer to one in the past. In the workplace, this can cause tension with jealous colleagues, and even with superiors who might be tempted to rein in a more successful inferior. Jealousy and envy can prove to be very detrimental if one is faced with a very insecure manager, as this person may seek to stifle someone's career or even block it completely.

The answer here is to let one's superiors share in the glory; to throw them a few crumbs of comfort. It is called leadership from the bottom. In the present business climate, companies and enterprises need to co-operate with each other in order to expand. As globalization grows apace, companies need to be able to span not just countries but continents. Whilst people may rail against this development it is for the moment here to stay. Without co-operation and contacts, specialist companies will not survive for long. Computer components, for example, need to be compatible with the various machines on the market and to achieve this, firms need to work in conjunction with others. No business or institution can afford to be an island in today's environment. In the not very distant past, it was possible for companies to go it alone, but it is now more difficult to do so.

The same applies in the academic world, where ideas have been jealously guarded. The opening-up of universities and colleges to the outside world in recent years has been of enormous benefit to industry and educational institutions. The stereotypical academic is one who moves in a rarefied atmosphere living a life of sometimes splendid isolation, a prisoner of their own genius. This sort of person does not fit easily into the mould of the modern networker. Yet even this insular world is changing. The ivory towers are being left ever more frequently as educational experts forge links with other bodies; sometimes to stunning effect as in Silicon Valley in America and around Cambridge in England, which now has one of the most concentrated clusters of high tech companies in Europe.

It is the networkers, the wheeler-dealers, the movers and shakers, call them what you will, that carry the world along. The world of the Neanderthals was shaken between 35,000 and 40,000 BC; they were superseded by Homo Sapiens with the very 'networking' skills that separate us from other animals: understanding, thought abstraction and culture, which are inextricably linked to planning survival and productivity in humans. It is said the meek will inherit the earth. But will they?

Questions 1-5

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

In boxes 11-13 on your answer sheet, write

- YES** if the statement agrees with the writer's claims
NO if the statement contradicts the writer's claims
NOT GIVEN if there is impossible to say what the writer thinks about this

- 1 Networking is not a modern idea.
- 2 Networking is worn like a badge exclusively in the business world.
- 3 People fall into two basic categories.
- 4 A person who shares knowledge and friends makes a better networker than one who does not.
- 5 The classic networker is physically strong and generally in good health.

Questions 6-10

Using **NO MORE THAN THREE WORDS** from the passage, complete the sentences below.

- 6 Making new acquaintances but also has its disadvantages.
- 7 At work, problems can be caused if the manager is
- 8 A manager can suppress, or even totally the career of an employee.
- 9 In business today, working together is necessary in order for to grow.
- 10 Businesses that specialize will not last for long without

Questions 11-15

Using **NO MORE THAN THREE WORDS** from the passage, complete the sentences below.

- 11 In which sphere of life have ideas been protected jealously?
- 12 Which type of individual does not easily become a modern networker?
- 13 Where is one of the greatest concentrations of high tech companies in Europe?
.....
- 14 Who replaced the Neanderthals?
- 15 What, as well as understanding and thought abstraction, sets us apart from other animals?
.....

SECTION 2

A SILENT FORCE

A There is a legend that St Augustine in the fourth century AD was the first individual to be seen reading silently rather than aloud, or semi-aloud, as had been the practice hitherto. Reading has come a long way since Augustine's day. There was a time when it was a menial job of scribes and priests, not the mark of civilization it became in Europe during the Renaissance when it was seen as one of the attributes of the civilized individual.

B Modern nations are now seriously affected by their levels of literacy. While the Western world has seen a noticeable decline in these areas, other less developed countries have advanced and, in some cases, overtaken the West. India, for example, now has a large pool of educated workers. So European countries can no longer rest on their laurels as they have done for far too long; otherwise, they are in danger of falling even further behind economically.

C It is difficult in the modern world to do anything other than a basic job without being able to read. Reading as a skill is the key to an educated workforce, which in turn is the bedrock of economic advancement, particularly in the present technological age. Studies have shown that by increasing the literacy and numeracy skills of primary school children in the UK, the benefit to the economy generally is in billions of pounds. The skill of reading is now no more just an intellectual or leisure activity, but rather a fully-fledged economic force.

D Part of the problem with reading is that it is a skill which is not appreciated in most developed societies. This is an attitude that has condemned large swathes of the population in most Western nations to illiteracy. It might surprise people in countries outside the West to learn that in the United Kingdom, and indeed in some other European countries, the literacy rate has fallen to below that of so-called less developed countries.

E There are also forces conspiring against reading in our modern society. It is not seen as cool among a younger generation more at home with computer screens or a Walkman. The solitude of reading is not very appealing. Students at school, college or university who read a lot are called bookworms. The term indicates the contempt in which reading and learning are held in certain circles or subcultures. It is a criticism, like all such attacks, driven by the insecurity of those who are not literate or are semi-literate. Criticism is also a means, like all bullying, of keeping peers in place so that they do not step out of line. Peer pressure among young people is so powerful that it often kills any attempts to change attitudes to habits like reading.

F But the negative connotations apart, is modern Western society standing Canute-like against an uncontrollable spiral of decline? I think not.

G How should people be encouraged to read more? It can easily be done by increasing basic reading skills at an early age and encouraging young people to borrow books from schools. Some schools have classroom libraries as well as school libraries. It is no good waiting until pupils are in their secondary school to encourage an interest in books; it needs to be pushed at an early age. Reading comics, magazines and low brow publications like Mills and Boon is frowned upon. But surely what people, whether they be adults or children, read is of little import. What is significant is the fact that they are reading. Someone who reads a comic today may have the courage to pick up a more substantial tome later on.

H But perhaps the best idea would be to stop the negative attitudes to reading from forming in the first place. Taking children to local libraries brings them into contact with an environment where they can become relaxed among books. If primary school children were also taken in groups into bookshops, this might also entice them to want their own books. A local bookshop, like some local libraries, could perhaps arrange book readings for children which, being away from the classroom, would make the reading activity more of an adventure. On a more general note, most countries have writers of national importance. By increasing the standing of national writers in the eyes of the public, through local and national writing competitions, people would be drawn more to the printed word. Catch them young and, perhaps, they just might then all become bookworms.

Questions 16-22

Reading Passage 2 has eight paragraphs labelled A-H.

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

Write the appropriate numbers (i-xii) in boxes 16-22 on your answer sheet.

List of Headings

- i Reading not taken for granted
- ii Taking children to libraries
- iii Reading: the mark of civilization
- iv Reading in St Augustine's day
- v A large pool of educated workers in India
- vi Literacy rates in developed countries have declined because of people's attitude
- vii Persuading people to read
- viii Literacy influences the economies of countries in today's world
- ix Reading benefits the economy by billions of pounds
- x The attitude to reading amongst the young
- xi Reading becomes an economic force
- xii The writer's attitude to the decline in reading

16 Paragraph A

17 Paragraph B

18 Paragraph C

19 Paragraph D

20 Paragraph E

21 Paragraph F

22 Paragraph G

Questions 23-27

Do the following statements agree with the information given in Reading Passage 2?

In boxes 23-27 on your answer sheet, write

- YES** if the statement agrees with the writer's claims
NO if the statement contradicts the writer's claims
NOT GIVEN if there is impossible to say what the writer thinks about this

23 European countries have been satisfied with past achievements for too long and have allowed other countries to overtake them in certain areas.

24 Reading is an economic force.

25 The literacy rate in less developed nations is considerably higher than in all European countries.

26 If you encourage children to read when they are young the negative attitude to reading that grows in some subcultures will be eliminated.

27 People should be discouraged from reading comics and magazines.

SECTION 3

Variations on a theme: the sonnet form in English poetry

A The form of lyric poetry known as ‘the sonnet’, or ‘little song’, was introduced into the English poetic corpus by Sir Thomas Wyatt the Elder and his contemporary Henry Howard, Earl of Surrey, during the first half of the sixteenth century. It originated, however, in Italy three centuries earlier, with the earliest examples known being those of Giacomo da Lentini, ‘The Notary’ in the Sicilian court of the Emperor Frederick II, dating from the third decade of the thirteenth century. The Sicilian sonneteers are relatively obscure, but the form was taken up by the two most famous poets of the Italian Renaissance, Dante and Petrarch, and indeed the latter is regarded as the master of the form.

B The Petrarchan sonnet form, the first to be introduced into English poetry, is a complex poetic structure. It comprises fourteen lines written in a rhyming metrical pattern of iambic pentameter, that is to say each line is ten syllables long, divided into five ‘feet’ or pairs of syllables (hence ‘pentameter’), with a stress pattern where the first syllable of each foot is unstressed and the second stressed (an iambic foot). This can be seen if we look at the first line of one of Wordsworth’s sonnets, ‘After- Thought’: ‘I thought of thee my partner and my guide’. If we break down this line into its constituent syllabic parts, we can see the five feet and the stress pattern (in this example each stressed syllable is underlined), thus: ‘I thought/ of thee/ my part/ner and/ my guide’.

C The rhyme scheme for the Petrarchan sonnet is equally as rigid. The poem is generally divided into two parts, the octave (8 lines) and the sestet (6 lines), which is demonstrated through rhyme rather than an actual space between each section. The octave is usually rhymed abbaabba with the first, fourth, fifth and eighth lines rhyming with each other, and the second, third, sixth and seventh also rhyming. The sestet is more varied: it can follow the patterns cdecde, cdccdc, or cdedce. Perhaps the best interpretation of this division in the Petrarchan sonnet is by Charles Gayley, who wrote: ‘The octave bears the burden; a doubt, a problem, a reflection, a query, an historical statement, a cry of indignation or desire, a vision of the ideal. The sestet eases the load, resolves the problem or doubt, answers the query or doubt, solaces the yearning, realizes the vision’. Thus, we can see that the rhyme scheme demonstrates a twofold division in the poem, providing a structure for development of themes and ideas.

D Early on, however, English poets began to vary and experiment with this structure. The first major development was made by Henry Howard, Earl of Surrey, altogether an indifferent poet, but was taken up and perfected by William Shakespeare, and is named after him. The Shakespearean sonnet also has fourteen lines in iambic pentameter, but rather than the division into octave and sestet, the poem is divided into four parts: three quatrains and a final rhyming couplet. Each quatrain has its own internal rhyme scheme, thus a typical Shakespearean sonnet would rhyme abab cdcd efef gg. Such a structure naturally allows greater flexibility for the author and it would be hard, if not impossible, to enumerate the different ways in which it has been employed, by Shakespeare and others. For example, an idea might be introduced in the first quatrain, complicated in the second, further complicated in the third, and resolved in the final couplet – indeed, the couplet is almost always used as a resolution to the poem, though often in a surprising way.

E These, then, are the two standard forms of the sonnet in English poetry, but it should be recognized that poets rarely follow rules precisely and a number of other sonnet types have been

developed, playing with the structural elements. Edmund Spenser, for example, more famous for his verse epic 'The Faerie Queene', invented a variation on the Shakespearean form by interlocking the rhyme schemes between the quatrains, thus: abab bcbc cddc ee, while in the twentieth century Rupert Brooke reversed his sonnet, beginning with the couplet. John Milton, the seventeenth-century poet, was unsatisfied with the fourteen-line format and wrote a number of 'Caudate' sonnets, or sonnets with the regular fourteen lines (on the Petrarchan model) with a 'coda' or 'tail' of a further six lines. A similar notion informs George Meredith's sonnet sequence 'Modern Love', where most sonnets in the cycle have sixteen lines.

F Perhaps the most radical of innovators, however, has been Gerard Manley Hopkins, who developed what he called the 'Curtal' sonnet. This form varies the length of the poem, reducing it in effect to eleven and a half lines, the rhyme scheme and the number of feet per line. Modulating the Petrarchan form, instead of two quatrains in the octave, he has two tercets rhyming abc abc, and in place of the sestet he has four and a half lines, with a rhyme scheme dcbdc. As if this is not enough, the tercets are no longer in iambic pentameter, but have six stresses instead of five, as does the final quatrain, with the exception of the last line, which has three. Many critics, however, are sceptical as to whether such a major variation can indeed be classified as a sonnet, but as verse forms and structures become freer, and poets less satisfied with convention, it is likely that even more experimental forms will out.

Questions 28-32

Reading Passage 3 has eight paragraphs labelled A-H.

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

Write the appropriate numbers (i-xiii) in boxes 28-32 on your answer sheet.

List of Headings

- i Octave develops sestet
- ii The Faerie Queene and Modern Love
- iii The origins of the sonnet
- iv The Shakespearean sonnet form
- v The structure of the Petrarchan sonnet form
- vi A real sonnet?
- vii Rhyme scheme provides structure developing themes and ideas
- viii Dissatisfaction with format
- ix The Sicilian sonneteers
- x Howard v. Shakespeare
- xi Wordsworth's sonnet form
- xii Future breaks with convention
- xiii The sonnet form: variations and additions

Example Paragraph A iii

- 28 Paragraph B
- 29 Paragraph C
- 30 Paragraph D
- 31 Paragraph E
- 32 Paragraph F

Questions 33-37

Using **NO MORE THAN THREE WORDS** from the passage, complete the sentences below.

33 Sir Thomas Wyatt the Elder and Henry Howard were

34 It was in the third decade of the thirteenth century that the was introduced.

35 Among poets of the Italian Renaissance was considered to be the better sonneteer.

36 The Petrarchan sonnet form consists of

37 In comparison with the octave, the rhyming scheme of the sestet is varied.

Questions 38-40

Choose the correct letters A-D and write them in boxes 38-40 on your answer sheet.

38 According to Charles Gayley,

- A the octave is longer than the sestet.
- B the octave develops themes and ideas.
- C the sestet provides answers and solutions.
- D the sestet demonstrates a twofold division.

39 The Shakespearean sonnet is

- A an indifferent development.
- B more developed than the Petrarchan sonnet.
- C more flexible than the Petrarchan sonnet.
- D enumerated in different ways.

40 According to the passage, whose sonnet types are similar?

- A Spenser and Brooke
- B Brooke and Milton
- C Hopkins and Spenser
- D Milton and Meredith

Reading Mock Test 5 Answers:

1. yes
2. no
3. yes
4. yes
5. not given
6. bring success
7. insecure/ jealous
8. block
9. companies and enterprises
10. cooperation and contacts
11. academic world
12. stereotypical academic
13. cambridge
14. homo sapiens
15. culture
16. iii
17. viii
18. xi
19. vi
20. x
21. xii
22. vii
23. yes
24. yes
25. not given
26. yes
27. no

28. v

29. vii

30. iv

31. xiii

32. vi

33. contemporaries

34. sonnet/ little song

35. petrarch

36. fourteen lines

37. more

38. C

39. C

40. D

READING MOCK TEST 6

SECTION 1

(Source : Cambridge Guide to IELTS)

Alternative Transportation

Transportation is a major issue in urban areas around the world. Rising fuel costs, environmental problems, and traffic-clogged roads are some of the concerns that have led people to consider alternative forms of transportation.

Fuel-efficient cars and cars that run on alternative sources of energy are receiving increasing interest as people become more concerned about the costs of using gasoline. These costs include not only the ever increasing price of filling up a car's fuel tank but also the environmental costs of emitting huge amounts of car exhaust into the atmosphere. Climate change is an issue of global concern. Closer to home, cities have to consider the effects on the health of their citizens. Car emissions have been linked to a range of health problems, particularly respiratory problems. For example, studies have linked childhood asthma and stunted lung growth to exposure to car exhaust in the air. Research has also made connections between car emissions and heart disease, certain cancers, and immune system problems.

The popularity of smaller, more fuel efficient cars is on the rise. Hybrid vehicles are also becoming more common. These cars have two engines— one that is battery powered and one that is gasoline powered. The battery- powered engine gets the car moving from a standstill. Once the car reaches a certain speed, the gasoline engine, which is more efficient at higher speeds, takes over to keep the car moving. There is also a growing interest in cars that are completely battery powered. These are cars that would be plugged into an electric outlet to recharge when not in use. Many consider such vehicles to be the car of the future. However, as long as the electricity is generated by coal-burning plants, as is often the case, these cars cannot be considered as using clean energy. Solar cars and hydrogen cars are other “clean” technologies that are receiving attention and hopes for the future.

Car emissions are the most serious source of concern, but the sheer number of vehicles on the road—over 250 million in the United States alone and over one billion worldwide—has other repercussions, as well. The roads and highways that are built to accommodate the growing number of cars in use are a source of pollution themselves. Ground that is covered with pavement cannot absorb rainwater, thus motor oil and other pollutants are washed off the roads and into lakes, rivers, and the ocean. Chemicals, herbicides, concrete, asphalt, paint, and other materials that are used during road construction also contribute to environmental pollution.

Personal convenience and health are also affected. While private cars are seen as a convenient way to get from place to place, crowded roads mean traffic moves much more slowly, making it difficult to travel, especially during “rush hour” periods. And people who spend hours each day sitting in cars stuck in traffic are not standing up, moving around, or getting any sort of exercise, a situation that can lead to a variety of health problems.

Thus, in addition to developing passenger cars that run on alternative sources of fuel, we also need to look at alternative forms of transportation. These would include walking, bicycle riding, carpooling, and various types of public transportation. The benefits of walking and cycling are obvious. They cause no pollution and improve physical health. Car pools—several people sharing a ride in a private car—mean fewer cars on the road and allow the riders to share the expenses involved. Public transportation— buses, subways, commuter trains—has many benefits, as well. For

one, it may provide users with opportunities for physical exercise as people have to get from their homes to the bus stops and train stations, and this is often done on foot. There are also mental health benefits, as relaxing on a train or bus while reading the newspaper or listening to music is a good deal less stressful than driving one's own car through rush hour traffic. All of these forms of transportation decrease the number of cars on the roads and greatly reduce emissions. Looking toward the future, cities need to pay as much attention, or more, to public transportation and to accommodating walkers and cyclists as they do to building roads and accommodating drivers of passenger cars.

Questions 1-5

The list below shows some problems that are associated with the use of private cars. Which FIVE of these problems are mentioned in the article?

- A Social isolation
- B High maintenance costs
- C Air pollution
- D Noise pollution
- E Traffic congestion
- F Stress
- G Lack of parking space
- H Rising price of gasoline
- I Reduced opportunities for physical exercise

Questions 6-13

Do the following statements agree with the views of the writer in the passage? In boxes 6-13 on your answer sheet write

- YES** if the statement agrees with the views of the writer
NO if the statement contradicts the views of the writer
NOT GIVEN if it is impossible to say what the writer thinks about this

- 6 Car emissions can contribute to illnesses of the respiratory system.
- 7 Cars are the largest source of environmental pollution in the modern world.
- 8 People are becoming more interested in hybrid cars.
- 9 Electric cars don't pollute the environment.
- 10 Solar-powered cars are currently too expensive for the average person to own.
- 11 Roads and highways contribute to water pollution.
- 12 Bicycle riding has health benefits.
- 13 Car pools can reduce individuals' transportation costs.

SECTION 2

Less Television, Less Violence and Aggression

Cutting back on television, videos, and video games reduces acts of aggression among schoolchildren, according to a study by Dr. Thomas Robinson and others from the Stanford University School of Medicine.

The study, published in the January 2001 issue of the Archives of Pediatric and Adolescent Medicine, found that third- and fourth-grade students who took part in a curriculum to reduce their TV video, and video game use engaged in fewer acts of verbal and physical aggression than their peers. The

study took place in two similar San Jose, California, elementary schools. Students in one school underwent an 18-lesson, 6-month program designed to limit their media usage, while the others did not. Both groups of students had similar reports of aggressive behavior at the beginning of the study. After the six-month program, however, the two groups had very real differences.

The students who cut back on their TV time engaged in six fewer acts of verbal aggression per hour and rated 2.4 percent fewer of their classmates as aggressive after the program. Physical acts of violence, parental reports of aggressive behavior, and perceptions of a mean and scary world also decreased, but the authors suggest further study to solidify these results. Although many studies have shown that children who watch a lot of TV are more likely to act violently, this report further verifies that television, videos, and video games actually cause the violent behavior, and it is among the first to evaluate a solution to the problem.

Teachers at the intervention school included the program in their existing curriculum. Early lessons encouraged students to keep track of and report on the time they spent watching TV or videos, or playing video games, to motivate them to limit those activities on their own. The initial lessons were followed by TV-Turn off, an organization that encourages less TV viewing. For ten days, students were challenged to go without television, videos, or video games. After that, teachers encouraged the students to stay within a media allowance of seven hours per week. Almost all students participated in the Turnoff, and most stayed under their budget for the following weeks.

Additional lessons encouraged children to use their time more selectively, and many of the final lessons had students themselves advocate reducing screen activities. This study is by no means the first to find a link between television and violence. Virtually all of 3,500 research studies on the subject in the past 40 years have shown the same relationship, according to the American Academy of Pediatrics.

Among the most noteworthy studies is Dr. Leonard D. Eron's, which found that exposure to television violence in childhood is the strongest predictor of aggressive behavior later in life—stronger even than violent behavior as children.

The more violent television the subjects watched at age eight, the more serious was their aggressive behavior even 22 years later. Another study by Dr. Brandon S. Centerwall found that murder rates climb after the introduction of television. In the United States and Canada, murder rates doubled 10 to 15 years after the introduction of television, after the first TV generation grew up. Centerwall tested this pattern in South Africa, where television broadcasts were banned until 1975.

Murder rates in South Africa remained relatively steady from the mid-1940s through the mid-1970s. By 1987, however, the murder rate had increased 130 percent from its 1974 level. The murder rates in the United States and Canada had leveled off in the meantime. Centerwall's study implies that the medium of television, not just the content, promotes violence, and the current study by Dr. Robinson supports that conclusion.

The Turnoff did not specifically target violent television, nor did the following allowance period. Reducing television in general reduces aggressive behavior. Even television that is not "violent" is more violent than real life and may lead viewers to believe that violence is funny, inconsequential, and a viable solution to problems. Also, watching television of any content robs us of the time to interact with real people. Watching too much TV may inhibit the skills and patience we need to get along with others without resorting to aggression. TV, as a medium, promotes aggression and violence. The best solution is to turn it off.

Questions 14-20

Complete the summary using words from the box below.

A study that was published in January 2001 found that when children (14).....less, they behaved less (15).....Students in a California elementary school participated in the study, which lasted (16).....By the end of the study, title children's behavior had changed. For example, the children's (17).....reported that the children were acting less violently than before. During the study, the children kept a record of the (18).....they watched TV. Then, for ten days, they (19).....Near the end of the study, the students began to suggest watching (20).....

Parents	Scared	Time of day
Teachers	Less TV	Number of hours
Six months	Eighteen days	Avoided TV
Violently	Classmates	<u>Favourite programmes</u>
Watched TV	<u>Nonviolent programmes</u>	

Questions 21-24

Do the following statements agree with the information in Reading Passage 2? In boxes 21-24 write

TRUE if the statement is true according to the passage.

FALSE if the statement contradicts the passage.

NOT GIVEN if there is no information about this in the passage.

21 Only one study has found a connection between TV and violent behavior.

22 There were more murders in Canada after people began watching TV.

23 The United States has more violence on TV than other countries.

24 TV was introduced in South Africa in the 1940s.

Questions 25 and 26

For each question, choose the correct letter A-D and write it in boxes 25 and 26 on your Answer Sheet.

25 According to the passage,

A only children are affected by violence on TV

B only violent TV programs cause violent behavior

C children who watch too much TV get poor grades in school

D watching a lot of TV may keep us from learning important social skills

26 The authors of this passage believe that

A some violent TV programs are funny

B the best plan is to stop watching TV completely

C it's better to watch TV with other people than on your own

D seven hours a week of TV watching is acceptable

SECTION 3

Issues Affecting the Southern Resident Orcas

A Orcas, also known as killer whales, are opportunistic feeders, which means they will take a variety of different prey species. J, K, and L pods (specific groups of orcas found in the region) are almost exclusively fish eaters. Some studies show that up to 90 percent of their diet is salmon, with Chinook salmon being far and away their favorite. During the last 50 years, hundreds of wild runs of salmon have become extinct due to habitat loss and overfishing of wild stocks. Many of the extinct salmon stocks are the winter runs of Chinook and coho. Although the surviving stocks have probably been sufficient to sustain the resident pods, many of the runs that have been lost were undoubtedly traditional resources favored by the resident orcas. This may be affecting the whales' nutrition in the winter and may require them to change their patterns of movement in order to search for food.

Other studies with tagged whales have shown that they regularly dive up to 800 feet in this area. Researchers tend to think that during these deep dives the whales may be feeding on bottomfish. Bottomfish species in this area would include halibut, rockfish, lingcod, and greenling. Scientists estimate that today's lingcod population in northern Puget Sound and the Strait of Georgia is only 2 percent of what it was in 1950. The average size of rockfish in the recreational catch has also declined by several inches since the 1970s, which is indicative of overfishing. In some locations, certain rockfish species have disappeared entirely. So even if bottomfish are not a major food resource for the whales, the present low numbers of available fish increases the pressure on orcas and all marine animals to find food. (For more information on bottomfish see the San Juan County Bottomfish Recovery Program.)

B Toxic substances accumulate in higher concentrations as they move up the food chain. Because orcas are the top predator in the ocean and are at the top of several different food chains in the environment, they tend to be more affected by pollutants than other sea creatures. Examinations of stranded killer whales have shown some extremely high levels of lead, mercury, and polychlorinated hydrocarbons. Abandoned marine toxic waste dumps and present levels of industrial and human refuse pollution of the inland waters probably presents the most serious threat to the continued existence of this orca population. Unfortunately, the total remedy to this huge problem would be broad societal changes on many fronts. But because of the fact that orcas are so popular, they may be the best species to use as a focal point in bringing about the many changes that need to be made in order to protect the marine environment as a whole from further toxic poisoning.

C The waters around the San Juan Islands are extremely busy due to international commercial shipping, fishing, whale watching, and pleasure boating. On a busy weekend day in the summer, it is not uncommon to see numerous boats in the vicinity of the whales as they travel through the area. The potential impacts from all this vessel traffic with regard to the whales and other marine animals in the area could be tremendous.

The surfacing and breathing space of marine birds and mammals is a critical aspect of their habitat, which the animals must consciously deal with on a moment-to-moment basis throughout their lifetimes. With all the boating activity in the vicinity, there are three ways in which surface impacts are most likely to affect marine animals: (a) collision, (b) collision avoidance, and (c) exhaust emissions in breathing pockets.

The first two impacts are very obvious and don't just apply to vessels with motors. Kayakers even present a problem here because they're so quiet. Marine animals, busy hunting and feeding under the surface of the water, may not be aware that there is a kayak above them and actually hit the

bottom of it as they surface to breathe. The third impact is one most people don't even think of. When there are numerous boats in the area, especially idling boats, there are a lot of exhaust fumes being spewed out on the surface of the water. When the whale comes up to take a nice big breath of "fresh" air, it instead gets a nice big breath of exhaust fumes. It's hard to say how greatly this affects the animals, but think how breathing polluted air affects us (i.e., smog in large cities like Los Angeles, breathing the foul air while sitting in traffic jams, etc.).

D Similar to surface impacts, a primary source of acoustic pollution for this population of orcas would also be derived from the cumulative underwater noise of vessel traffic. For cetaceans, the underwater sound environment is perhaps the most critical component of their sensory and behavioral lives. Orcas communicate with each other over short and long distances with a variety of clicks, chirps, squeaks, and whistles, along with using echolocation to locate prey and to navigate. They may also rely on passive listening as a primary sensory source. The long-term impacts from noise pollution would not likely show up as noticeable behavioral changes in habitat use, but rather as sensory damage or gradual reduction in population health. A new study at The Whale Museum called the SeaSound Remote Sensing Network has begun studying underwater acoustics and its relationship to orca communication.

Questions 27-30

Reading Passage 3 has four sections (A-D). Choose the most suitable heading for each section from the list of headings below. Write the appropriate numbers (i-vii) in boxes 27-30 on your Answer Sheet. There are more headings than sections, so you will not use all of them.

List of headings

- i Top Ocean Predators
- ii Toxic Exposure
- iii Declining Fish Populations
- iv Pleasure Boating in the San Juan Islands
- v Underwater Noise
- vi Smog in Large Cities
- vii Impact of Boat Traffic

- 27 Section A
- 28 Section B
- 29 Section C
- 30 Section D

Questions 31-32

For each question, choose the appropriate letter A-D and write it in boxes 31 and 32 on your Answer Sheet.

31 Killer whales (orcas) in the J, K, and L pods prefer to eat

- A** halibut
- B** a type of salmon
- C** a variety of animals
- D** fish living at the bottom of the sea

32 Some groups of salmon have become extinct because

- A they have lost places to live
- B whales have eaten them
- C they don't get good nutrition
- D the winters in the area are too cold

Questions 33-40

Complete the chart below. Write **NO MORE THAN THREE WORDS**.

Cause	Effect
Scientists believe some whales feed (33).....	These whales dive very deep
Scientists believe that the area is being over fished	Rockfish caught today is (34)..... than rockfish caught in the past
Orcas are at the top of the ocean food chain	(35)..... affects orcas more than it does other sea animals
Orcas are a (36).....species	We can use orcas to make society aware of the problem in marine pollution
People enjoy boating, fishing and whale watching in the San Juan Islands	On weekends there are (37).....near the whales
Kayaks are (38).....	Marine animals hit them when they come up the air
A lot of boats keep their motors running	Whales breathe (39).....
Boats are noisy	Whales have difficulty hearing and (40).....



Reading Mock Test 6 Answers:

1. C
2. E
3. F
4. H
5. I
6. yes
7. not given
8. yes
9. no
10. not given
11. yes
12. yes
13. yes
14. watched TV
15. violently
16. 6 months
17. parents
18. number of hours
19. avoided TV
20. less TV
21. false
22. true
23. not given
24. not given
25. D
26. B
27. iii

28. ii

29. vii

30. v

31. B

32. A

33. on bottomfish

34. smaller

35. toxic substances

36. popular

37. numerous boats/ vessels

38. quiet

39. exhaust fumes

40. communicating

READING MOCK TEST 7

SECTION 1

(Source : Cambridge Guide to IELTS)

Glaciers

A Besides the earth's oceans, glacier ice is the largest source of water on earth. A glacier is a massive stream or sheet of ice that moves underneath itself under the influence of gravity. Some glaciers travel down mountains or valleys, while others spread across a large expanse of land. Heavily glaciated regions such as Greenland and Antarctica are called continental glaciers. These two ice sheets encompass more than 95 percent of the earth's glacial ice. The Greenland ice sheet is almost 10,000 feet thick in some areas, and the weight of this glacier is so heavy that much of the region has been depressed below sea level. Smaller glaciers that occur at higher elevations are called alpine or valley glaciers. Another way of classifying glaciers is in terms of their internal temperature. In temperate glaciers, the ice within the glacier is near its melting point. Polar glaciers, in contrast, always maintain temperatures far below melting.

B The majority of the earth's glaciers are located near the poles, though glaciers exist on all continents, including Africa and Oceania. The reason glaciers are generally formed in high alpine regions is that they require cold temperatures throughout the year. In these areas where there is little opportunity for summer ablation (loss of mass), snow changes to compacted and then crystallized ice. During periods in which melting and evaporation exceed the amount of snowfall, glaciers will retreat rather than progress. While glaciers rely heavily on snowfall, other climatic conditions including freezing rain, avalanches, and wind, contribute to their growth. One year of below average precipitation can stunt the growth of a glacier tremendously. With the rare exception of surging glaciers, a common glacier flows about 10 inches per day in the summer and 5 inches per day in the winter. The fastest glacial surge on record occurred in 1953, when the Kutiah Glacier in Pakistan grew more than 12 kilometers in three months.

C The weight and pressure of ice accumulation causes glacier movement. Glaciers move out from under themselves, via plastic deformation and basal slippage. First, the internal flow of ice crystals begins to spread outward and downward from the thickened snow pack also known as the zone of accumulation. Next, the ice along the ground surface begins to slip in the same direction. Seasonal thawing at the base of the glacier helps to facilitate this slippage. The middle of a glacier moves faster than the sides and bottom because there is no rock to cause friction. The upper part of a glacier rides on the ice below. As a glacier moves it carves out a U-shaped valley similar to a riverbed, but with much steeper walls and a flatter bottom.

D Besides the extraordinary rivers of ice, glacial erosion creates other unique physical features in the landscape such as horns, fjords, hanging valleys, and cirques. Most of these landforms do not become visible until after a glacier has receded. Many are created by moraines, which occur at the sides and front of a glacier. Moraines are formed when material is picked up along the way and deposited in a new location. When many alpine glaciers occur on the same mountain, these moraines can create a horn. The Matterhorn, in the Swiss Alps, is one of the most famous horns. Fjords, which are very common in Norway, are coastal valleys that fill with ocean water during a glacial retreat. Hanging valleys occur when two or more glacial valleys intersect at varying elevations. It is common for waterfalls to connect the higher and lower hanging valleys, such as in Yosemite National Park. A cirque is a large bowl-shaped valley that forms at the front of a glacier.

Cirques often have a lip on their down slope that is deep enough to hold small lakes when the ice melts away.

E Glacier movement and shape shifting typically occur over hundreds of years. While presently about 10 percent of the earth's land is covered with glaciers, it is believed that during the last Ice Age glaciers covered approximately 32 percent of the earth's surface. In the past century, most glaciers have been retreating rather than flowing forward. It is unknown whether this glacial activity is due to human impact or natural causes, but by studying glacier movement, and comparing climate and agricultural profiles over hundreds of years, glaciologists can begin to understand environmental issues such as global warming.

Questions 1-5

Reading Passage 1 has five paragraphs, A-E. Choose the most suitable heading for each paragraph from the list of headings below. Write the appropriate numbers (i-viii) on your Answer Sheet. There are more headings than paragraphs, so you will not use them all.

List of Headings

- i Glacial Continents
- ii Formation and Growth of Glaciers
- iii Glacial Movement
- iv Glaciers in the Last Ice Age
- v Glaciers Through the Years
- vi Types of Glaciers
- vii Glacial Effects on Landscape
- viii Glaciers in National Parks

- 1 Paragraph A
- 2 Paragraph B
- 3 Paragraph C
- 4 Paragraph D
- 5 Paragraph E

Questions 6-10

Do the following statements agree with the information in the passage? In boxes 6-10 on your Answer Sheet, write

- TRUE** if the statement is true according to the passage.
FALSE if the statement contradicts the passage.
NOT GIVEN if there is no information about this in the passage.

- 6 Glaciers exist only near the north and south poles.
- 7 Glaciers are formed by a combination of snow and other weather conditions.
- 8 Glaciers normally move at a rate of about 5 to 10 inches a day.
- 9 All parts of the glacier move at the same speed.
- 10 During the last Ice Age, average temperatures were much lower than they were during previous Ice Ages.

Questions 11-15

Match each definition below with the term it defines. Write the letter of the term, A-H, on your Answer Sheet. There are more terms than definitions, so you will not use them all.

- 11 a glacier formed on a mountain
- 12 a glacier with temperatures well below freezing
- 13 a glacier that moves very quickly
- 14 a glacial valley formed near the ocean
- 15 a glacial valley that looks like a bowl

Terms

- A fjord
- B alpine glacier
- C horn
- D polar glacier
- E temperate glacier
- F hanging valley
- G cirque
- H surging glacier

SECTION 2

Irish Potato Famine

A In the ten years following the Irish potato famine of 1845, over 750,000 Irish people died, including many of those who attempted to immigrate to countries such as the United States and Canada. Prior to the potato blight, one of the main concerns in Ireland was overpopulation. In the early 1500s, the country's population was estimated at less than three million, but by 1840 this number had nearly tripled. The bountiful potato crop, which contains almost all of the nutrients that a person needs for survival, was largely to blame for the population growth. However, within five years of the failed crop of 1845, the population of Ireland was reduced by a quarter. A number of factors contributed to the plummet of the Irish population, namely the Irish dependency on the potato crop, the British tenure system, and the inadequate relief efforts of the English.

B It is not known exactly how or when the potato was first introduced to Europe; however, the general assumption is that it arrived on a Spanish ship sometime in the 1600s. For more than one hundred years, Europeans believed that potatoes belonged to a botanical family of a poisonous breed. It was not until Marie Antoinette wore potato blossoms in her hair in the mid-eighteenth century that potatoes became a novelty. By the late 1700s, the dietary value of the potato had been discovered, and the monarchs of Europe ordered the vegetable to be widely planted.

C By 1800, the vast majority of the Irish population had become dependent on the potato as its primary staple. It wasn't uncommon for an Irish potato farmer to consume more than six pounds of potatoes a day. Families stored potatoes for the winter and even fed potatoes to their livestock. Because of this dependency, the unexpected potato blight of 1845 devastated the Irish. Investigators at first suggested that the blight was caused by static energy, smoke from railroad trains, or vapors from underground volcanoes; however, the root cause was later discovered as an airborne fungus that traveled from Mexico. Not only did the disease destroy the potato crops, it also infected all of the potatoes in storage at the time. Their families were dying from famine, but weakened farmers had retained little of their agricultural skills to harvest other crops. Those who did manage to grow things such as oats, wheat, and barley relied on earnings from these exported crops to keep their rented homes.

D While the potato blight generated mass starvation among the Irish, the people were held captive to their poverty by the British tenure system. Following the Napoleonic Wars of 1815, the English

had turned their focus to their colonial land holdings. British landowners realized that the best way to profit from these holdings was to extract the resources and exports and charge expensive rents and taxes for people to live on the land. Under the tenure system, Protestant landlords owned 95 percent of the Irish land, which was divided up into five-acre plots for the people to live and farm on. As the population of Ireland grew, however, the plots were continuously subdivided into smaller parcels. Living conditions declined dramatically, and families were forced to move to less fertile land where almost nothing but the potato would grow.

E During this same period of colonization, the Penal Laws were also instituted as a means of weakening the Irish spirit. Under the Penal Laws, Irish peasants were denied basic human rights, such as the right to speak their own native language, seek certain kinds of employment, practice their faith, receive education, and own land. Despite the famine that was devastating Ireland, the landlords had little compassion or sympathy for tenants unable to pay their rent. Approximately 500,000 Irish tenants were evicted by their landlords between 1845 and 1847. Many of these people also had their homes burned down and were put in jail for overdue rent.

F The majority of the British officials in the 1840s adopted the laissez-faire philosophy, which supported a policy of nonintervention in the Irish plight. Prime Minister Sir Robert Peel was an exception. He showed compassion toward the Irish by making a move to repeal the Corn Laws, which had been put in place to protect British grain producers from the competition of foreign markets. For this hasty decision, Peel quickly lost the support of the British people and was forced to resign. The new Prime Minister, Lord John Russell, allowed assistant Charles Trevelyan to take complete control over all of the relief efforts in Ireland. Trevelyan believed that the Irish situation should be left to Providence. Claiming that it would be dangerous to let the Irish become dependent on other countries, he even took steps to close food depots that were selling corn and to redirect shipments of corn that were already on their way to Ireland. A few relief programs were eventually implemented, such as soup kitchens and workhouses; however, these were poorly run institutions that facilitated the spread of disease, tore apart families, and offered inadequate food supplies considering the extent of Ireland's shortages.

G Many of the effects of the Irish potato famine are still evident today. Descendants of those who fled Ireland during the 1840s are dispersed all over the world. Some of the homes that were evacuated by absentee land-lords still sit abandoned in the Irish hills. A number of Irish descendants still carry animosity toward the British for not putting people before politics. The potato blight itself still plagues the Irish people during certain growing seasons when weather conditions are favorable for the fungus to thrive.

Questions 16-20

The passage has seven paragraphs, A-G. Which paragraphs contain the following information?

- 16 the position of the British government toward the potato famine
- 17 a description of the system of land ownership in Ireland
- 18 early European attitudes toward the potato
- 19 explanation of the lack of legal protection for Irish peasants
- 20 the importance of the potato in Irish society

Questions 21-28

Complete each sentence with the correct ending, A-L, from the box below. Write the correct letter in boxes 21-28 on your Answer Sheet. There are more endings than sentences, so you won't use them all.

Sentence Endings

- A because they couldn't pay the rent on their farms.
- B because railroad trains caused air pollution.
- C because potatoes were their main source of food.
- D because Charles Trevelyan took over relief efforts.
- E because they needed the profits to pay the rent.
- F because they weren't well-managed.
- G because there wasn't enough land for the increasing population.
- H because his efforts to help the Irish were unpopular among the British.
- I because they believed that potatoes were poisonous.
- J because the British instituted penal laws.
- K because it was discovered that potatoes are full of nutrients.
- L because Marie Antoinette used potato blossoms as decoration.

- 21 At first Europeans didn't eat potatoes
- 22 European monarchs encouraged potato growing
- 23 The potato blight was devastating to the Irish
- 24 Farmers who grew oats, wheat, and barley didn't eat these crops
- 25 Many Irish farmers lived on infertile plots
- 26 Many Irish farmers were arrested
- 27 Sir Robert Peel lost his position as prime minister
- 28 Soup kitchens and workhouses didn't relieve the suffering

SECTION 3

Anesthesiology

Since the beginning of time, man has sought natural remedies for pain. Between 40 and 60 A.D., Greek physician, Dioscorides traveled with the Roman armies, studying the medicinal properties of plants and minerals. His book, *De materia medica*, written in five volumes and translated into at least seven languages, was the primary reference source for physicians for over sixteen centuries. The field of anesthesiology which was once nothing more than a list of medicinal plants and makeshift remedies, has grown into one of the most important fields in medicine.

Many of the early pain relievers were based on myth and did little to relieve the suffering of an ill or injured person. The mandragora (now known as the mandrake plant) was one of the first plants to be used as an anesthetic. Due to the apparent screaming that the plant made as it was pulled from the ground, people in the Middle Ages believed that the person who removed the mandrake from the earth would either die or go insane. This superstition may have resulted because the split root of the mandrake resembled the human form. In order to pull the root from the ground, the plant collector would loosen it and tie the stem to an animal. It was believed that the safest time to uproot a mandrake was in the moonlight, and the best animal to use was a black dog. In his manual, Dioscorides suggested boiling the root with wine and having a man drink the potion to remove sensation before cutting his flesh or burning his skin. Opium and Indian hemp were later used to induce sleep before a painful procedure or to relieve the pain of an illness. Other remedies such as

cocaine did more harm to the patient than good as people died from their addictions. President Ulysses S. Grant became addicted to cocaine before he died of throat cancer in 1885.

The modern field of anesthetics dates to the incident when nitrous oxide (more commonly known as laughing gas) was accidentally discovered. Humphrey Davy, the inventor of the miner's lamp, discovered that inhaling the toxic compound caused a strange euphoria, followed by fits of laughter, tears, and sometimes unconsciousness. U.S. dentist, Horace Wells, was the first on record to experiment with laughing gas, which he used in 1844 to relieve pain during a tooth extraction. Two years later, Dr. William Morton created the first anesthetic machine. This apparatus was a simple glass globe containing an ether-soaked sponge. Morton considered ether a good alternative to nitrous oxide because the numbing effect lasted considerably longer. His apparatus allowed the patient to inhale vapors whenever the pain became unbearable. In 1846, during a trial experiment in Boston, a tumor was successfully removed from a man's jaw area while he was anesthetized with Morton's machine.

The first use of anesthesia in the obstetric field occurred in Scotland by Dr. James Simpson. Instead of ether, which he considered irritating to the eyes, Simpson administered chloroform to reduce the pain of childbirth. Simpson sprinkled chloroform on a handkerchief and allowed laboring women to inhale the fumes at their own discretion. In 1853, Queen Victoria agreed to use chloroform during the birth of her eighth child. Soon the use of chloroform during childbirth was both acceptable and fashionable. However, as chloroform became a more popular anesthetic, knowledge of its toxicity surfaced, and it was soon obsolete.

After World War II, numerous developments were made in the field of anesthetics. Surgical procedures that had been unthinkable were being performed with little or no pain felt by the patient. Rather than physicians or nurses who administered pain relief as part of their profession, anesthesiologists became specialists in suppressing consciousness and alleviating pain. Anesthesiologists today are classified as perioperative physicians, meaning they take care of a patient before, during, and after surgical procedures. It takes over eight years of schooling and four years of residency until an anesthesiologist is prepared to practice in the United States. These experts are trained to administer three different types of anesthetics: general, local, and regional. General anesthetic is used to put a patient into a temporary state of unconsciousness. Local anesthetic is used only at the affected site and causes a loss of sensation. Regional anesthetic is used to block the sensation and possibly the movement of a larger portion of the body. As well as controlling the levels of pain for the patient before and throughout an operation, anesthesiologists are responsible for monitoring and controlling the patient's vital functions during the procedure and assessing the medical needs in the post-operative room.

The number of anesthesiologists in the United States has more than doubled since the 1970s, as has the improvement and success of operative care. In addition, complications from anesthesiology have declined dramatically. Over 40 million anesthetics are administered in the United States each year, with only 1 in 250,000 causing death.

Questions 29-34

Do the following statements agree with the information in Passage 3? In boxes 29-34 on your Answer Sheet, write

- | | |
|------------------|---|
| TRUE | if the statement is true according to the passage. |
| FALSE | if the statement contradicts the passage. |
| NOT GIVEN | if there is no information about this in the passage. |

- 29 Dioscorides' book, De materia medica, fell out of use after 60 A.D.
30 Mandragora was used as an anesthetic during the Middle Ages.
31 Nitrous oxide can cause the user to both laugh and cry.
32 During the second half of the 19th century, most dentists used anesthesia.
33 Anesthesiologists in the United States are required to have 12 years of education and training.
34 There are fewer anesthesiologists in the United States now than there were 40 years ago.

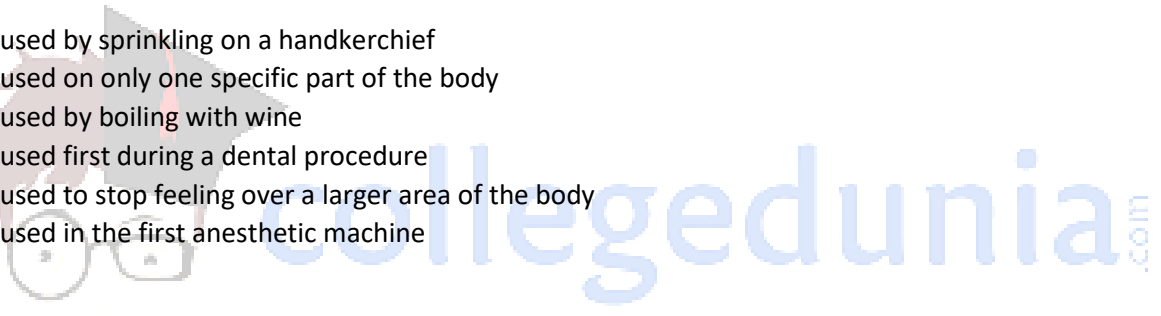
Questions 35-40

Match each fact about anesthesia with the type of anesthetic that it refers to. There are more types of anesthetics listed than facts, so you won't use them all. Write the correct letter, A-H, in boxes 35-40 on your Answer Sheet.

Types of Anesthetic

- A** general anesthetic
B local anesthetic
C regional anesthetic
D chloroform
E ether
F nitrous oxide
G opium **H** mandrake

- 35 used by sprinkling on a handkerchief
36 used on only one specific part of the body
37 used by boiling with wine
38 used first during a dental procedure
39 used to stop feeling over a larger area of the body
40 used in the first anesthetic machine



Reading Mock Test 7 Answers:

1. vi
2. ii
3. iii
4. vii
5. v
6. false
7. true
8. true
9. false
10. not given
11. B
12. D
13. H
14. A
15. G
16. F
17. D
18. B
19. E
20. C
21. I
22. K
23. C
24. E
25. G
26. A
27. H

28. F

29. false

30. true

31. true

32. not given

33. true

34. false

35. D

36. B

37. H

38. F

39. C

40. E

READING MOCK TEST 8

SECTION 1

(Source : Cambridge Guide to IELTS)

Reading Passage One

The way in which information is taught can vary greatly across cultures and time periods. Entering a British primary school classroom from the early 1900s, for example, one gains a sense of austerity, discipline, and a rigid way of teaching. Desks are typically seated apart from one another, with straight-backed wooden chairs that face directly to the teacher and the chalkboard. In the present day, British classrooms look very different. Desks are often grouped together so that students face each other rather than the teacher, and a large floor area is typically set aside for the class to come together for group discussion and learning.

Traditionally, it was felt that teachers should be in firm control of the learning process, and that the teacher's task was to prepare and present material for students to understand. Within this approach, the relationship students have with their teachers is not considered important, nor is the relationship students have with each other in the classroom. A student's participation in class is likely to be minimal, aside from asking questions directed at the teacher, or responding to questions that the teacher has directed at the student. This style encourages students to develop respect for positions of power as a source of control and discipline. It is frequently described as the "formal authority" model of teaching.

A less rigid form of teacher-centred education is the "demonstrator" model. This maintains the formal authority model's notion of the teacher as a "flashlight" who illuminates the material for his or her class to learn, but emphasises a more individualized approach to form. The demonstrator acts as both a role model and a guide, demonstrating skills and processes and then helping students develop and apply these independently. Instructors who are drawn to the demonstrator style are generally confident that their own way of performing a task represents a good base model, but they are sensitive to differing learning styles and expect to provide students with help on an individual basis.

Many education researchers argue for student-centred learning instead, and suggest that the learning process is more successful when students are in control. Within the student-centred paradigm, the "delegator" style is popular. The delegator teacher maintains general authority, but they delegate much of the responsibility for learning to the class as a way for students to become independent thinkers who take pride in their own work. Students are often encouraged to work on their own or in groups, and if the delegator style is implemented successfully, they will build not only a working knowledge of course specific topics, but also self-discipline and the ability to co-ordinate group work and interpersonal roles.

Another style that emphasises student-centred education is the "facilitator" mode of learning. Here, while a set of specific curriculum demands is already in place, students are encouraged to take the initiative for creating ways to meet these learning requirements together. The teacher typically designs activities that encourage active learning, group collaboration, and problem solving, and students are encouraged to process and apply the course content in creative and original ways. Whereas the delegator style emphasises content and the responsibility students can have for generating and directing their own knowledge base, the facilitator style emphasises form and the fluid and diverse possibilities that are available in the process of learning.

Until the 1960s, formal authority was common in almost all Western schools and universities. As a professor would enter a university lecture theatre, a student would be expected to rush up, take his bag to the desk, and pull out the chair for the professor to sit down on. This style has become outmoded over time. Now at university, students and professors typically have more relaxed, collegiate relationships, address each other on a first name basis, and acknowledge that students have much to contribute in class. Teacher-centred education has a lingering appeal in the form of the demonstrator style, however, which remains useful in subjects where skills must be demonstrated to an external standard and the learning process remains fixed in the earlier years of education. A student of mathematics, sewing or metalwork will likely be familiar with the demonstrator style. At the highest levels of education, however, the demonstrator approach must be abandoned in all fields as students are required to produce innovative work that makes unique contributions to knowledge. Thesis and doctoral students lead their own research in facilitation with supervisors.

The delegator style is valuable when the course is likely to lead students to careers that require group projects. Often, someone who has a high level of expertise in a particular field does not make for the best employee because they have not learnt to apply their abilities in a co-ordinated manner. The delegator style confronts this problem by recognizing that interpersonal communication is not just a means to learning but an important skill set in itself. The facilitator model is probably the most creative model, and is, therefore, not suited to subjects where the practical component necessitates a careful and highly disciplined manner, such as training to be a medical practitioner. It may, however, suit more experimental and theoretical fields ranging from English, music, and the social sciences to science and medical research that takes place in research labs. In these areas, “mistakes” in form are important and valuable aspects of the learning and development process.

Overall, a clear evolution has taken place in the West from a rigid, dogmatic, and teacher-dominated way of learning to a flexible, creative, and student-centred approach. Nevertheless, different subjects, ages, and skill levels suit different styles of teaching, and it is unlikely that there will ever be one recommended approach for everyone.

Questions 1-8

Look at the following statements (Questions 1-8) and the styles of teaching below. Match each statement with the correct teaching style, A -D. Write the correct letter, A-D, in boxes 1-8 on your answer sheet. NB You may use any letter more than once.

1. The emphasis is on students directing the learning process.
2. The teacher shows the class how to do something, then students try it on their own.
3. Student-teacher interaction and student-student interaction is limited.
4. The emphasis is on the process of solving problems together.
5. Students are expected to adjust to the teacher’s way of presenting information.
6. The teacher designs group activities that encourage constructive interaction.
7. Time is set aside for one-on-one instruction between teacher and student.
8. Group and individual work is encouraged independently of the teacher.

List of teaching styles

- A Formal authority
- B Demonstrator
- C Delegator
- D Facilitator

Questions 9-12

Do the following statements agree with the information given in Reading Passage 1? In boxes 9-12 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 The formal authority model remains popular in educational institutions of the West
10 The demonstrator model is never used at tertiary level.
11 Graduates of delegator style teaching are good communicators.
12 The facilitator style is not appropriate in the field of medicine.

Question 13

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

- 13 What is the best title for Reading Passage 1?
A Teaching styles and their application
B Teaching: then and now
C When students become teachers
D Why student-centred learning is best

SECTION 2

The Flavour Industry

- A.** Read through the nutritional information on the food in your freezer, refrigerator or kitchen pantry, and you are likely to find a simple, innocuous-looking ingredient recurring on a number of products: “natural flavour”. The story of what natural flavour is, how it got into your food, and where it came from is the result of more complex processes than you might imagine.
- B.** During the 1980s, health watchdogs and nutritionists began turning their attention to cholesterol, a waxy steroid metabolite that we mainly consume from animal-sourced products such as cheese, egg yolks, beef, poultry, shrimp, and pork. Nutritionists blamed cholesterol for contributing to the growing rates of obesity, heart disease, diabetes, and several cancers in Western societies. As extensive recognition of the matter grew amongst the common people, McDonalds stopped cooking their french fries in a mixture of cottonseed oil and beef tallow, and in 1990, the restaurant chain began using 100% vegetable oil instead.
- C.** This substantially lowered the amount of cholesterol in McDonalds’ fries, but it created a new dilemma The beef tallow and cottonseed oil mixture gave the French fries high cholesterol content, but it also gifted them with a rich aroma and “mouth-feel” that even James Beard, an American food critic, admitted he enjoyed. Pure vegetable oil is bland in comparison. Looking at the current ingredients’ list of McDonalds’ French fries, however, it is easy to see how they overcame this predicament Aside from a few preservatives, there are essentially three main ingredients: potato, soybean oil, and the mysterious component of “natural flavour”.
- D.** Natural flavour also entered our diet through the rise in processed foods, which now make up over 90% (and growing) of the American diet, as well as representing a burgeoning industry in developing countries such as China and India. Processed foods are essentially any foods that have been boxed, bagged, canned or packaged, and have a list of ingredients on the label. Sometimes, the processing involves adding a little sodium or sugar, and a few preservatives. Often, however, it is

coloured, bleached, stabilized, emulsified, dehydrated, odour-concealed, and sweetened. This process typically saps any original flavour out of the product, and so, of course, flavour must be added back in as well.

E. Often this is “natural flavour”, but while the term may bring to mind images of fresh barley, hand-ground spices, and dried herbs being traded in a bustling street market, most of these natural sources are, in fact, engineered to culinary perfection in a set of factories and plants off the New Jersey Turnpike outside of New York. Here, firms such as International Flavors & Fragrances, Harnen & Keimer, Flavor Dynamics, Frutarom and Elan Chemical isolate and manufacture the tastes that are incorporated in much of what we eat and drink. The sweet, summery burst of naturally squeezed orange juice, the wood-smoked aroma in barbecue sauces, and the creamy, buttery, fresh taste in many dairy products do not come from sundrenched meadows or backyard grills but are formed in the labs and test tubes of these flavour industry giants.

F. The scientists – dubbed “flavourists” who create the potent chemicals that set our olfactory senses to overdrive use a mix of techniques that have been refined over many years. Part of it is dense, intricate chemistry: spectrometers, gas chromatographs, and headspace-vapour analysers can break down components of a flavour in amounts as minute as one part per billion. Not to be outdone, however, the human nose can isolate aromas down to three parts per trillion. Flavourists, therefore, consider their work as much an art as a science, and flavourism requires a nose “trained” with a delicate and poetic sense of balance.

G. Should we be wary of the industrialisation of natural flavour? On its own, the trend may not present any clear reason for alarm. Nutritionists widely agree that the real assault on health in the last few decades stems from an “unholy trinity” of sugar, fat, and sodium in processed foods. Natural flavour on its own is not a health risk. It does play a role, however, in helping these processed foods to taste fresh and nutritious, even when they are not. So, while the natural flavour industry should not be considered the culprit, we might think of it as a willing accomplice.

Questions 14-21

Reading Passage 2 has seven paragraphs, A-G. Which paragraph contains the following information? Write the correct letter. A-G, in boxes 14-21 on your answer sheet. NB You may use any letter more than once.

- 14 examples of companies that create natural flavours
- 15 an instance of a multinational franchise responding to public pressure
- 16 a statement on the health effects of natural flavours
- 17 an instance where a solution turns into a problem
- 18 a place in the home where one may encounter the term “natural flavour”
- 19 details about the transformation that takes place in processed grocery items
- 20 a comparison of personal and technological abilities in flavour detection
- 21 examples of diet-related health conditions

Questions 22-25

Do the following statements agree with the information given in Reading Passage 2? In boxes 22-25 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 |

- 22 On their own, vegetable oils do not have a strong flavour.
23 Soybean oil is lower in cholesterol than cottonseed oil.
24 Processed foods are becoming more popular in some Asian countries.
25 All food processing maintains the natural flavours of the products.

Question 26

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

26 The writer of Reading Passage 2 concludes that natural flavours

- A are the major cause of dietary health problems.
- B are unhealthy, but not as bad as sugar, fat, and sodium.
- C have health benefits that other ingredients tend to cancel out.
- D help make unhealthy foods taste better.

SECTION 3

Britain needs strong TV industry

Comedy writer Armando Iannucci has called for an industry-wide defence of the BBC and British programme-makers. "The Thick of It" creator made his remarks in the annual MacTaggart Lecture at the Edinburgh TV Festival.

"It's more important than ever that we have more strong, popular channels... that act as beacons, drawing audiences to the best content," he said. Speaking earlier, Culture Secretary John Whittingdale rejected suggestions that he wanted to dismantle the BBC.

'Champion supporters'

Iannucci co-wrote "I'm Alan Partridge", wrote the movie "In the Loop" and created and wrote the hit "HBO" and "Sky Atlantic show Veep". He delivered the 40th annual MacTaggart Lecture, which has previously been given by Oscar winner Kevin Spacey, former BBC director general Greg Dyke, Jeremy Paxman and Rupert Murdoch. Iannucci said: "Faced with a global audience, British television needs its champion supporters."

He continued his praise for British programming by saying the global success of American TV shows had come about because they were emulating British television. "The best US shows are modelling themselves on what used to make British TV so world-beating," he said. "US prime-time schedules are now littered with those quirky formats from the UK – the "Who Do You Think You Are"'s and the variants on "Strictly Come Dancing" – as well as the single-camera non-audience sitcom, which we brought into the mainstream first. We have changed international viewing for the better."

With the renewal of the BBC's royal charter approaching, Iannucci also praised the corporation. He said: "If public service broadcasting – one of the best things we've ever done creatively as a country – if it was a car industry, our ministers would be out championing it overseas, trying to win contracts, boasting of the British jobs that would bring." In July, the government issued a green paper setting out issues that will be explored during negotiations over the future of the BBC, including the broadcaster's size, its funding and governance.

Primarily Mr Whittingdale wanted to appoint a panel of five people, but finally he invited two more people to advise on the channel renewal, namely former Channel 4 boss Dawn Airey and journalism professor Stewart Purvis, a former editor-in-chief of ITN. Iannucci bemoaned the lack of "creatives" involved in the discussions.

“When the media, communications and information industries make up nearly 8% our GDP, larger than the car and oil and gas industries put together, we need to be heard, as those industries are heard. But when I see the panel of experts who’ve been asked by the culture secretary to take a root and branch look at the BBC, I don’t see anyone who is a part of that cast and crew list. I see executives, media owners, industry gurus, all talented people – but not a single person who’s made a classic and enduring television show.”

‘Don’t be modest’

Iannucci suggested one way of easing the strain on the licence fee was “by pushing ourselves more commercially abroad”.

“Use the BBC’s name, one of the most recognised brands in the world,” he said. “And use the reputation of British television across all networks, to capitalise financially overseas. Be more aggressive in selling our shows, through advertising, through proper international subscription channels, freeing up BBC Worldwide to be fully commercial, whatever it takes.

“Frankly, don’t be icky and modest about making money, let’s monetise the beezesus Mary and Joseph out of our programmes abroad so that money can come back, take some pressure off the licence fee at home and be invested in even more ambitious quality shows, that can only add to our value.”

Mr Whittingdale, who was interviewed by ITV News’ Alastair Stewart at the festival, said he wanted an open debate about whether the corporation should do everything it has done in the past. He said he had a slight sense that people who rushed to defend the BBC were “trying to have an argument that’s never been started”.

“Whatever my view is, I don’t determine what programmes the BBC should show,” he added. “That’s the job of the BBC.” Mr Whittingdale said any speculation that the Conservative Party had always wanted to change the BBC due to issues such as its editorial line was “absolute nonsense”.

Questions 27-31

Do the following statements agree with the information in the IELTS reading text? In boxes 27–31 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

- 27 Armando Iannucci expressed a need of having more popular channels.
28 John Whittingdale wanted to dismantle the BBC.
29 Iannucci delivered the 30th annual MacTaggart Lecture.
30 Iannucci believes that British television has contributed to the success of American TV-shows.
31 There have been negotiations over the future of the BBC in July.

Questions 32–35

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

- 32 Iannucci praised everything EXCEPT
A US shows
B British shows
C Corporation
D British programming

33 To advise on the charter renewal Mr Whittingdale appointed a panel of

- A five people
- B two people
- C seven people
- D four people

34 Who of these people was NOT invited to the discussion concerning BBC renewal?

- A Armando Iannucci
- B Dawn Airey
- C John Whittingdale
- D Stewart Purvis

35 There panel of experts lacks:

- A media owners
- B people who make enduring TV-shows
- C gurus of Television industry
- D top executives

Questions 36–40

Complete the summary below. Write **NO MORE THAN TWO WORDS** from the passage for each answer.

Easing the strain on the licence fees

Iannucci recommended increasing BBC's profit by pushing ourselves more (36).....He suggests being more aggressive in selling British shows, through advertising and proper international (37)..... Also, he invokes producers to stop being (38).....and modest about making money and invest into even (39).....quality shows. However, Mr Whittingdale denied any (40).....that the Conservative Party had always wanted to change the BBC because of its editorial line.

Reading Mock Test 8 Answers:

1. C
2. B
3. A
4. D
5. A
6. D
7. B
8. C
9. false
10. not given
11. true
12. false
13. A
14. E
15. B
16. G
17. C
18. A
19. D
20. F
21. B
22. true
23. not given
24. true
25. false
26. D
27. true

28. false

29. not given

30. true

31. false

32. A

33. C

34. A

35. B

36. commercially abroad

37. subscription channels

38. lcky

39. more ambitious

40. speculation

READING MOCK TEST 9

SECTION 1

(Source : Cambridge Guide to IELTS)

“Freebie” Marketing

A. In the late 1890s, while travelling as an itinerant salesperson for the Crown Cork and Seal Company, King C. Gillette observed how his corked bottle caps were discarded immediately after opening. Nevertheless, his company turned a healthy profit and there was immense business value. Gillette soon came to realise, in a product that was used only a few times. Gillette had his own personal breakthrough while struggling with a straight-bladed razor – a slow, fiddly, and potentially dangerous instrument that required sharpening on a regular basis. A simple, disposable blade that could be thrown away when it dulled would meet a real need and generate strong profits, he correctly reasoned. After founding the American Safety Razor Company in 1901, his sales leapt from 168 blades in 1,903 to 123,648 blades only a year later.

B. What King C. Gillette pioneered is far more than a convenient and affordable way for men to shave, however, it is the business practice now known as “freebie marketing” that has inspired many more companies over the years. Gillette’s approach was contrary to the received wisdom of his era, which held that a single, durable, high-quality and relatively expensive consumer item with a high profit margin was the best foundation for a business. Freebie marketing involves two sets of items: a master product that is purchased once, and a consumable product that is frequently disposed of and repurchased on an ongoing basis. In this instance, the master product is often sold with little to no profit margin and is sometimes even dispensed at a loss. As the consumables are purchased over months and years, however, this can yield a much greater overall profit.

C. Freebie marketing only works if the producer of the master item is also able to maintain control over the creation and distribution of the consumables. If this does not happen, then cheaper versions of the consumable items may be produced, leaving the original company without a source of profit. The video game company Atari, for example, initially sold its Atari 2600 consoles at cost price while relying on game sales for profit. Several programmers left Atari, however, and began a new company called Activision which produced cheaper games of a similar quality. Suddenly, Atari was left with no way to make money. Lawsuits to block Activision failed, and Atari survived only by adding licensing measures to its subsequent 5200 and 7800 consoles.

D. In other instances, consumers sometimes find that uses for a master product circumvent the need to purchase consumables. This phenomenon is well known to have afflicted the producers of CueCat barcode readers. These were given away free through Wired magazine with the intention that they would be used by customers to scan barcodes next to advertisements in the publication and thus generate new revenue flows. Users discovered, however, that the machines could be easily modified and used for other purposes, such as building a personal database of book and CD collections. As no licensing agreement was ever reached between Wired and its magazine subscribers, CueCat were powerless to intervene, and after company liquidation, the barcode readers soon became available in quantities over 500,000 for as little as US\$0.30 each.

E. Not all forms of freebie marketing are legal. One notable example of this is the use of freebie marketing to “push” habit-forming goods in areas where there is otherwise no market. For illegal substances, this is already restricted on the basis of the product’s illegality, but the use of freebie marketing to promote legal goods such as tobacco, alcohol, and pharmaceuticals is also outlawed

because the short-term gain to a small number of commercial outlets is not deemed worth the social cost of widespread substance abuse.

F. Another practice that is prohibited under antitrust laws is a form of freebie marketing known as “tying”. This is when a seller makes the sale of one good conditional on the acquisition of a second good. In these instances, the first good is typically important and highly desirable, while the second is inferior and undesirable. A music distributor who has the rights to an album that it is in high demand, for example, might only allow stores to purchase copies of this album if they also buy unpopular stock that does not sell very easily. Because this typically relies on the manipulation of a natural monopoly on the part of the distributor, such practices are widely understood to constitute anti-competitive behaviour.

Questions 1-6

Reading Passage 1 has six sections A-F. Choose the correct headings for sections A-F from the list of headings below.

List of headings

- i No giveaways for addictive products
- ii Sales of razor blades increase astronomically
- iii Monopoly of consumables is vital for success
- iv Video gaming – a risky business
- v A novel method of dual marketing ruled out
- vi Freebie marketing restricted to legal goods
- vii Buyer ingenuity may lead to bankruptcy
- viii A marketing innovation
- ix A product innovation
- x More money to be made from high – quality products

- 1 Section A
- 2 Section B
- 3 Section C
- 4 Section D
- 5 Section E
- 6 Section F

Questions 7-9

Complete the sentences below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

The new tactic of freebie marketing ran against the (7).....of Gillette’s time.

Occasionally, people who buy a master product find ways of using it that get around the necessity of buying more (8).....

Wired never had a (9).....with its customers about the use of the barcode readers.

Questions 10-13

Complete the summary below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

Freebie marketing is not permitted by law for either illegal or legal (10).....products. This type of promotion of goods such as tobacco and alcohol is not considered worth the

(11).....and has consequently been outlawed. “Tying” is also prohibited. This is when the sale of an attractive product is (12).....on the purchase of another. It tends to occur when the seller takes advantage of a natural monopoly and is generally considered to be (13).....

SECTION 2

Tacoma Narrows Bridge – Disaster Strikes

When the Tacoma Narrows Bridge opened for traffic on 1 July 1940, it was celebrated as a major engineering achievement. Even before construction was completed, however, flaws in the design were apparent; workers sucked on lemon slices to avoid motion sickness as the structure swayed in the relatively mild winds. Engineers tried three different revisions during construction to address the vibration problem. Initially, tie-down cables were anchored to fifty-tonne bulkheads on the river banks. These were ineffective, as the cables soon detached. Then, a pair of inclined cable locks was introduced to connect the main cables to the bridge deck at mid-span. These stayed throughout the bridge’s lifespan, but did nothing to reduce vibration. A further measure – the installation of hydraulic dampers between the towers and the floor system – was nullified because the dampers were compromised when the bridge was sandblasted before painting.

Shortly after opening, the bridge quickly acquired the fond nickname of “Gallop Gertie” because of the way it would roll in either side-to-side or lengthways movements – known in physics terms as the longitudinal and transverse modes of vibration respectively. These movements did not compromise the core integrity of the structure, but did make the crossing a somewhat white-knuckle affair. Many drivers reported seeing cars ahead disappear from sight several times as they sank into troughs from transverse vibrations (imagine the ripple across a packed stadium during a Mexican wave). The experience of a longitudinal wave is closely analogous, but more accurately associated with the waves one would encounter in the ocean. On a suspension bridge though, these waves are a unique experience – some daredevils were happy to pay the 75c toll just for the thrill.

Four months later, however, a never-before-seen type of vibration began afflicting the bridge in what were still fairly gentle winds (about 40 kmph). Rather than the simple “wave” motion that characterizes longitudinal and transverse vibration, the left side of the bridge would rise while the right side fell, but the centre line of the road would remain completely level. This was proved when two men walked along the centre of the bridge completely unaffected by the rocking motions around them. Visually, the bridge’s movements seemed to be more like a butterfly flapping its wings than a simple rolling motion. Engineers now understand this to be the torsional mode of vibration, and it is extremely hard to detect. In aeroplane design, for example, even minute shifts of the aircraft’s mass distribution and an alteration in one component can affect a component with which it has no logical connection. In its milder forms, this can cause a light buzzing noise, similar to that which a wasp or a bumble bee makes, but when allowed to develop unchecked, it can eventually cause the total destruction of an aeroplane.

The torsional mode of vibration is the consequence of a set of actions known as aerostatic flutter. This involves several different elements of a structure oscillating from the effect of wind, with each cycle of fluttering building more energy into the bridge’s movements and neutralizing any structural damping effects. Because the wind pumps in more energy than the structure can dissipate, and the oscillations feed off each other to become progressively stronger, the aerostatic flutter and torsional vibrations were all but assured to destroy the Tacoma Bridge on the morning of 7 November. At 11:00 a.m., the fluttering had increased to such amplitude that the suspender cables were placed

under excessive strain. When these budded, the weight of the deck transferred to the adjacent cables which in turn were unable to support the weight. These cables buckled, leaving nothing to stop the central deck breaking off into the Tacoma River.

It was at around 10:15 a.m. on 7 November that torsional vibration began afflicting the bridge. This made driving treacherous, and newspaper editor Leonard Coatsworth's car was jammed against the curb in the centre of the bridge as he attempted to cross. Coatsworth tried to rescue his daughter's cocker spaniel from the back seat but was unsuccessful, and fearing for his life, crawled and staggered to safety on his own. At this point, an engineering professor named Beit Farquhatson proceeded onto the bridge in an attempt to save the frightened animal. Farquhatson had been video-recording from the banks of the river and had just returned from purchasing more rolls of film. As an avowed dog lover, he felt obliged to attempt a rescue. Unfortunately, the professor too was bitten and retreated empty handed, walking off just moments before the cables snapped and the giant concrete mass of the central deck caved inwards and disappeared into the river.

Questions 14-16

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

Engineers used various techniques while building the bridge to reduce wobble:

- they attached (14)..... to heavy blocks on the shoreline
- they fastened main cables to the middle of the (15).....
- (16)..... were placed between the tallest parts of the structure and the deck.

Questions 17-19

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

Mode of vibration	Description
(17).....	Moving repeatedly to the left and right
(18).....	Up and down motion; like a wave
Torsional	Resembling motions of a (19).....

Questions 20-24

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

(20)..... is a series of actions leading to torsional oscillation. Various components move back and forth from the force of the (21)..... Eventually, the structure absorbs more (22)..... than it is able to disperse and the (23)..... increase gradually in intensity until the structure collapses under the (24).....

Questions 25-26

Choose **TWO** letters. A—E.

Which **TWO** of the following were on the bridge at the time of the collapse?

- A filming equipment
- B a small dog
- C Leonard Coatsworth's daughter

D a vehicle

E Professor Farquharson

SECTION 3

Ebonics

Ebonics – also known by a host of other names such as African American Vernacular English, Black English, Black Vernacular, and so on — is an African-American language that has its roots in the trans-Atlantic slave trade, as African captives devised the means to communicate with each other and with their captors. In the South of the United States, these Pan-African languages co-mingled with Standard English and the Southern dialect. Many uniquely African American components have arisen over the last two centuries, and all of these influences have forged what is now known as Ebonics.

In 1996, debates around the nature of “Ebonics” in the United States came to a head. That year, the Oakland Unified School District (OUSD) in California enacted Resolution 597-003, which officially recognized that African-American students “as part of their culture and history as African people possess and utilize a language”. Alternatively referred to as Ebonics (literally “black sounds”), African Communication Behaviours, and African Language Systems, this language was declared to be “genetically-based” rather than a dialect of Standard English.

Within the profession of language research and pedagogy, a strong consensus formed behind the OUSD’s decision to recognise Ebonics. Linguistics professor John Rickford noted that Ebonics was not simply characterised by erroneous grammar and a large slang vocabulary, but that underlying this language was a structured form and process of grammar and phonology that made English learning for Ebonics speakers far more complex a task than simply dropping bad habits. English teachers, Rickford counselled, must therefore accept and embrace these complexities.

The Linguistic Society of America (LSA) concurred with Rickford, adding that whether or not Ebonics should be defined as a dialect or a language does not matter in terms of its “validity”. While linguists studying Ebonics typically restrain from prescribing edicts in favour of tracking changes in form and style, the LSA did point to the fact that speakers of Sweden and Norwegian can typically understand each other while conversing in different “languages”, whereas Mandarin and Cantonese speakers cannot understand each other’s “dialects” to conclude that spatial and social tensions, rather than strict linguistic criteria, were the crucial factors in defining these terms.

For many others, however, the OUSD’s decision was tantamount to endorsing lazy, vulgar, and “broken” English — the equivalent, perhaps, of acknowledging “txt-speak” or Internet slang as a valid form of expression. Recognizing and fostering the use of informal, culturally-specific spoken language, say those detractors, traps users in a kind of linguistic ghetto in which they can interact with other disenfranchised and excluded citizens, but cannot engage within the public sphere in a meaningful way. Because of the dominance of Standard English in the United States, Ebonics-only speakers are essentially unable to go to university and work in high-valued professions, and they are unlikely to be electable to any kind of public office (even in areas with a high density of black residents, those who lose their Ebonics-tinged speech patterns tend to be more trusted).

Psychology professor Ladonna Lewis Rush has noted, however, that the OUSD’s resolution did not promote Ebonics instruction as an alternative to Standard English in an either-or approach but was intended to provide a better springboard for black achievement in English education. The systematic devaluation of Ebonics in American society parallels. Rush has argued, the devaluation of African-

Americans in general While a demeaning attitude can lead to social exclusion, teachers are suggested to think infusively and encourage Ebonics speakers to use and celebrate their way of speaking while understanding that the language of the workplace, and of academics, is Standard English. Nobel Prize-winning journalist Toni Morrison has also found a reciprocal, mutually enriching use for both Ebonics and Standard English. "There are certain ideas and ways of thinking I cannot say without recourse to my Ebonics, language ... I know the Standard English. I want to use it to restore the other language, the lingua franca."

In the media, the Ebonics controversy has mostly been portrayed as a revival of black-versus-white confrontation — this time over linguistic differences — but journalist Joan Walsh thinks there are bask elements inherent in the dispute that people do not want to openly discuss. She considers that there is increasing resentment by black parents and teachers who see enormous amounts of federal and state support going into Asian and Latino bilingual programmes. As immigration continues to increase, a greater proportion of the school budget is going into these programmes. The question has to be raised: why should immigrant children get English-language assistance as well as reinforcement of their own language and culture while native-born African-Americans get no such resources? Walsh maintains inner-city black children are more isolated than in the past and have less social interaction with those fluent in Standard English. For this reason, they need help by trained teachers to translate the native tongue they hear at home into the English of the classroom.

Ebonics should be treated as a black contribution to culture in the way that jazz and rock-and-roll has been welcomed — the new vocabulary and imagery has added to the American language rather than devalued it. In Walsh's eyes, there has always been "white mistrust of how black people handle their business" but "in the public realm, white disdain yields block intransigence more reliably than 'P comes before e'".

Questions 27-30

Complete the summary below. Choose **NO MORE THAN THREE WORDS** from the text for each answer.

Ebonics originated from the (27).....The prisoners found a way to talk to other enslaved Africans as well as to (28).....In southern USA, several African languages mixed with English and the local (29).....Over time, many distinctive (30).....have been added to produce the Ebonics language of today.

Questions 31-37

Complete each sentence with the correct ending, A-K below. Write the correct letter, A-K, in boxes 31 —37 on your answer sheet.

- 31 In 1996, the Oakland Unified School District passed a measure
- 32 According to John Rickford, it is a good idea when teaching Standard English
- 33 Linguists studying Black speech patterns are only able
- 34 The LSA nilcd that definitions of "dialect" and "language" are generally a way
- 35 Critics of vernacular alternatives to Standard English tend
- 36 Ladonna Lewis Rush argues that it is important for educators
- 37 Toni Morrison finds it necessary

- A to use Ebonies in order to express specific concepts
- B to recognise the genetic differences between African-American students and others
- C to acknowledge the systematic differences that Ebonics speakers must learn to overcome
- D to consider Ebonics as lazy English rather than a unique form of expression

- E** to admit Ebonics users to university to gain more knowledge
- F** to make a statement about particular geo-societal relationships
- G** to compare Scandinavian languages and Chinese dialects
- H** to declare Ebonics an independent language, not a variation on English
- I** to honour positive aspects of Ebonics, while emphasising the necessity of Standard English for formal use
- J** to approve the language of text messaging as a legitimate mode of communication
- K** to describe how Ebonics has developed without dictating rules for proper usage

Questions 38-40

Choose **THREE** letters A-G. Write the correct letters in boxes 38-40 on your answer sheet.

Which **THREE** statements below represent the views of Joan Walsh?

- A** Linguistic issues are impeding black academic success rather than social issues.
- B** Ebonics deserves to be considered as nothing less than a gift to American society.
- C** Children of non-English-speaking immigrants should be denied access to limited educational resources.
- D** Ebonics is a debate that reflects rising multi-minority tensions and frustration over funding issues.
- E** Ebonics is just another hostile encounter between black and white opponents.
- F** Many urban African-American children do not have the same exposure to accepted norms of English that they used to.
- G** Blacks need more flexibility in their dealings with the white public.



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Reading Mock Test 9 Answers:

1. ix
2. viii
3. iii
4. vii
5. i
6. v
7. received wisdom
8. consumables
9. licensing agreement
10. habit forming
11. social cost
12. conditional
13. anti-competitive behavior
14. tie-down cables
15. bridge deck
16. hydraulic dampers
17. longitudinal
18. transverse
19. butterfly
20. aerostatic flutter
21. wind
22. energy
23. oscillations
24. (excessive) strain
25. B
26. D
27. slave trade

28. their captors

29. dialect

30. components

31. H

32. C

33. K

34. F

35. D

36. I

37. A

38. B

39. D

40. F

READING MOCK TEST 10

SECTION 1

(Source : Cambridge Guide to IELTS)

The Development of Travel under the Ocean

For millennia, humans have been intrigued by what lies beneath the sea and although submarine travel was attempted from time to time, it did not become commonplace until the middle of last century. Several clever and innovative people had experimented with designs for submersible boats before then, but there was much loss of life and little success.

There had long been use of a primitive diving bell for explorative purposes, but it was as a war machine that the submarine came into its own. The first development in the history of American submarines was a small submersible with a hand-cranked screw-like oar and a crew of one. It was built before the American Revolutionary War (1775—1783) but was adapted for use against the British during this war. Although its pilot twice failed to fasten explosive devices to British ships before losing control of his vessel, he escaped harm.

In 1800, an American inventor, Robert Fulton, designed an underwater machine that he called the Nautilus. This version brought in features that can still be found in some modern submarines, notably adjustable diving planes for better underwater manoeuvring, dual systems of propulsion, and a compressed air system that allowed it to stay down for about four hours without surfacing.

Development of submersible vessels lagged a long way behind the continued progress in the design of surface ships until the American Civil War (1861-1865) when both sides tried out various designs. One of those, called the Hunley — named after its financier rather than its inventor, sank twice during training missions with 11 crew members losing their lives including Hunley himself. Notwithstanding these failures, it was commissioned again in 1864 to attack a ship in Charleston Harbor. A torpedo was used to strike and scuttle the ship — a first in naval history, but the submarine never reappeared, and once again the whole crew perished. Its potential had been recognised, but there still remained the challenge of operating safely under the water.

The US Navy could appreciate the strategic benefits of having submarines in its fleet and held a competition to encourage design and construction of these underwater craft. The inventor, John Holland, won the competition and it was his sixth prototype, the Holland, that the navy bought and added to its fleet in 1900. This submarine was quite different from previous designs. It was propelled by a gasoline engine that turned a propeller while the vessel was on the surface. When it submerged, the engine ran a generator to charge batteries to operate an electric motor. The improved propulsion methods were, unfortunately, highly dangerous. Not only is gasoline flammable and unstable, using it in the restricted environment of a submarine posed quite a hazard for the crewmen. There was another problem, too: the batteries were not only heavy, cumbersome and inefficient, but they were also extremely volatile.

During the same period as Holland's efforts were being trialled, a German scientist by the name of Rudolf Diesel created an engine which used a fuel less explosive than gasoline and which could consequently be stored safely. Another advantage was that there was no necessity for an electric spark to ignite the fuel. These safety improvements combined with better fuel economy allowed Diesel engines to power a submarine for longer on the surface; however, batteries were still needed to supply energy for underwater operation.

Although diesel-powered submarines were successful and used by the US Navy for almost 50 years, the search for a single power source carried on. It wasn't long before the concept of nuclear power was realised in Germany and taken up by an American physicist, Ross Gunn, who could envisage its potential in submersibles. A research team was put together to adapt the concept of nuclear power for use in submarines. In effect, modern nuclear submarines have on board a small nuclear power plant which produces a great amount of energy. This is used to heat water and create steam which drives a huge turbine which turns the propeller.

There have been many adaptations and technological improvements made to submarines over the years, but the shape is basically the same. Obviously, it is a totally enclosed craft, cigar-shaped with narrowed ends. The outer hull is the largest part of the boat and forms the body. The inner hull is designed to resist the considerable water pressure and insulates the crew from the cold. This is where the crew works, eats and sleeps. It also contains the engine room and the apparatus that makes clean air and clean water. Between the hulls are the ballast tanks for controlling buoyancy. There is a tall fin-shaped sail that comes up out of the hull. Inside the sail is the conning tower and extending from this, to the fore, there is a periscope (through which the captain can see the sea and sky when the submarine is near the surface of the water). Sonar is used for navigation deep below the surface. The other projection from the conning tower is the radio antenna.

Underwater, there are two controls for steering the submarine. The rudder (like a tail fin) controls side-to-side movement, and diving planes influence rise and descent. There are two sets of diving planes: the forward sail planes and the stem planes, which are located at the back with the rudder and propeller.

Advancing technology will undoubtedly result in different shapes and modes of operation, and it is quite possible that, in the future, submarines will be manned by robots or computer technology that communicates information to land bases via satellite.

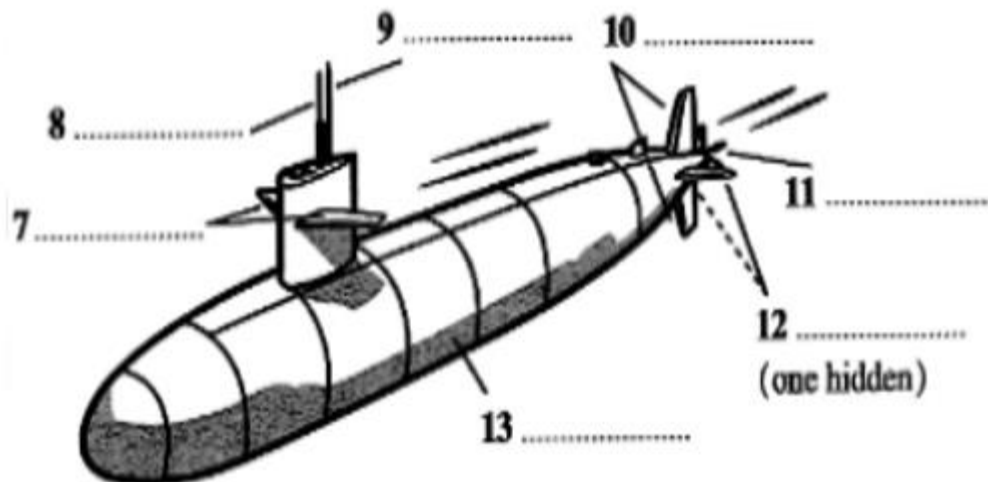
Questions 1-6

Answer the questions below. Choose **NO MORE THAN THREE WORDS** from the text for each answer.

1. What kind of underwater device was used to investigate the ocean before submersible boats were invented?
2. What was the crewman of the first American-built submarine trying to do before his mission failed?
3. What gave the Nautilus the ability to remain submerged for a long time?
4. When was a submarine first used successfully to sink an enemy boat?
5. What new type of propulsion did the Holland use on top of the water?
6. For what reason was Diesel's fuel considered safer than Holland's?

Questions 7–13

Label the diagram below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.



SECTION 2

Vitamins – To supplement or not?

Mineral, vitamin, and antioxidant health supplements make up a multi-billion-dollar industry in the United States alone, but do they really work? Evidence suggests supplementation is clearly indicated in special circumstances, but can actually be harmful in others. For the general population, however, supplements have negligible or no impact on the prevention of common cancers, cardiovascular diseases, cognitive decline, mortality, or any other major indicators of health. In pursuit of a longer, happier and healthier life, there are certainly better investments for most people than a tube of vitamin supplements.

Particular sub-groups of the population can gain a proven benefit from supplementation. Folic acid has long been indicated as a prenatal supplement due to its assistance in foetal cell division and corresponding ability to prevent neural tube birth defects. Since Canada and the United States decided to require white flour to be fortified with folic acid, spinal birth defects have plummeted by 75%, and rates of neuroblastoma (a ravaging form of infant cancer) are now 50% lower. In countries without such fortification, or for women on low-carbohydrate diets, a prenatal multivitamin could make the crucial difference. The United States Department of Health and Human Services has concluded that the elderly may also benefit from extra vitamin D; calcium can help prevent bone fractures; and zinc and antioxidants can maintain vision while deflecting macular degeneration in people who would otherwise be likely to develop this affliction.

There is mounting evidence, however, for many people to steer clear of multivitamins. The National Institutes of Health has noted a “disturbing evidence of risk” in tobacco users: beta-carotene, a common ingredient in multivitamins, was found over a six-year study to significantly contribute to higher lung cancer and mortality rates in smokers. Meanwhile, excessive vitamin A (a supplement often taken to boost the immune system) has been proven to increase women’s risk of a hip fracture, and vitamin E, thought to improve cardiovascular health, was contraindicated in a study that demonstrated higher rates of congestive heart failure among such vitamin users. Antioxidant supplementation has no purpose nor does it achieve anything, according to the Food and Nutrition Board of the National Academy of Sciences, and the Medical Letter Group has gone further in

suggesting they may interfere with treatment and promote some cancers. Antioxidants are generally regarded as counteracting the destructive effect of free radicals in the body, but according to the Medical Letter's theory, free radicals may also serve the purpose of sending a powerful signal to the body's immune system to fix the damage. By taking supplements, we risk undermining that message and upsetting the balance of antioxidants and free radicals in the body. The supplements counteract the free radicals, the immune system is not placed on alert, and the disease could sneak through the gates.

One problem with supplementation by tablet is the poor record on digestibility. These tablets are often stocked with metal-based minerals that are essentially miniature rocks, and our bodies are unable to digest them. Even the vitamin elements of these pills that are theoretically digestible are often unable to be effectively extracted by our bodies when they arrive in such a condensed form. In Salt Lake City, for example, over 150 gallons of vitamin and mineral pills are retrieved from the sewer filters each month. According to the physician's desk reference, only about 10% – 20% of multivitamins are absorbed by the body. The National Advisory Board is even more damning, suggesting that every 100mg of tablet corresponds to about 8.3mg of blood concentration, although noting that this can still potentially perform a helpful role in some cases. In effect, for every \$100 you spend on vitamin supplements, over \$90 of that is quite literally flushed down the toilet.

A final argument against multivitamins is the notion that they can lead people – consciously or not – to the conclusion that supplementation fills in the gaps of an unhealthy diet and mops up afterwards, leaving their bodies none the wiser that instead of preparing a breakfast of fresh fruit and muesli, they popped a tiny capsule with coffee and a chocolate bar. In a seven-year study, however, the Heart Protection study did not find any positive outcome whatsoever from multivitamins and concluded that while vitamins in the diet are important, multivitamin tablets are safe but completely useless. There is evidently no shortcut around the task of buying, preparing, and consuming fresh fruit and vegetables every day. Boosting, supplementing, and fortifying products alter people's very perception of what healthy food is; instead of heading for the fresh produce aisle in the supermarket, they are likely to seek out sugary, processed foods with a handful of extra B vitamins as a healthy choice. We cannot supplement our way out of a bad diet.

Questions 14-16

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

14. The writer does not recommend multivitamin supplementation for _____

- A** pregnant women.
- B** young children.
- C** anyone prone to eye problems.
- D** old people.

15. According to the writer, vitamin E has been shown to _____

- A** lead to heart problems.
- B** be good for heart health.
- C** support the immune system.
- D** have no effect.

16. The Medical letter Group believes antioxidant supplementation ____

- A is ineffective in attacking free radicals.
- B alerts the immune system to the presence of free radicals.
- C attacks both free radicals and the immune system.
- D prevents the immune system from responding to free radicals.

Questions 17-21

Do the following statements agree with the information given in Reading Passage 2?

In boxes 17-21 on your answer sheet, write

- YES** if the statement agrees with the views of the writer
- NO** if the statement contradicts the views of the writer
- NOT GIVEN** if it is impossible to say what the writer thinks about this

- 17 Some multivitamin tablets have indigestible ingredients.
- 18 Some individual vitamins are better absorbed than others in a tablet form.
- 19 Our bodies cannot distinguish food-based from supplement-based vitamins.
- 20 Multivitamins can lead to poorer overall eating habits in a person's life.
- 21 People typically know that fortified processed foods are not good for them.

Questions 22-26

Classify the following groups of people according to whether they believe

Write the correct letter A, B or C, in boxes 22-26 on your answer sheet.

- A the supplementation may have a positive effect
- B the supplementation may have a negative effect
- C supplementation has no effect

- 22 The United States Department of Health and Human Services
- 23 The National Institutes of Health
- 24 The Food and Nutrition Board of the National Academy of Sciences
- 25 The National Advisory Board
- 26 The Heart Protection Group

SECTION 3

The Birth of Suburbia

A. There is no single pivotal moment that could be separated out from any other as the conception of the suburban lifestyle; from the early 1800s, various types of suburban development have sprung up and evolved in their own localised ways, from the streetcar suburbs of New York to the dormitory towns outside of London. It is William Levitt, however, who is generally regarded as the father of modern suburbia. During World War II, Levitt served in the United States Navy where he developed expertise in the mass construction of military housing, a process that he streamlined using uniform and interchangeable parts. In 1947, the budding developer used this utilitarian knowledge to begin work with his father and architect brother constructing a planned community on Long Island, New York. With an emphasis on speed, efficiency, and cost-effective production, the Levitts were soon able to produce over 30 units a day.

B. William Levitt correctly predicted the demand for affordable, private, quiet, and comfortable homes from returning GIs after World War II and with the baby boom starting to kick in. All the original lots sold out in a matter of days, and by 1951, nearly 18,000 homes in the area had been constructed by the Levitt fit Sons Company. Levittown quickly became the prototype of mass-produced housing, spurring the construction of similar projects in Pennsylvania, New Jersey, and even Puerto Rico, followed by a new industry, and soon a new way of life and a new ideal for the American family.

C. One of the major criticisms of suburbia is that it can lead to isolation and social dislocation. With properties spread out over great swathes of land, sealed off from one another by bushes, fences and trees, the emphasis of suburban life is placed squarely on privacy rather than community. In the densely populated urban settlements that predated suburbs (and that are still the predominant way of life for some people), activities such as childcare and household chores as well as sources of emotional and moral support were widely socialised. This insured that any one family would be able to draw on a pool of social resources from their neighbours, building cohabitants and family on nearby streets. Suburbia breaks these networks down into individual and nuclear family units resulting in an increase in anti-social behaviour even amongst the wealthy. Teens from wealthy suburban families, for example, are more likely to smoke, drink alcohol, and use drugs than their poorer urban peers, and are also more likely to experience depression and anxiety.

D. Another major problem with the suburban lifestyle is its damaging ecological impact. The comparison of leafy, quiet, and low-density suburbs with life in the concrete towers of sooty, congested urban conurbations is actually quite misleading; as it turns out, if you want to be kind to the natural environment, the key is to stay away from it. Suburbia fails the environmental friendliness test on a number of counts. Firstly, due to their low population density, suburbs consume natural land at a much higher rate than high-density row housing or apartment buildings. Secondly, they encourage the use of personal motor vehicles, often at a rate of one per family member, at the expense of public transport. It is also much less efficient to provide electricity and water to individual suburban houses instead of individual units in an apartment building. In his comparison of urban and suburban pollution, Edward L. Glaeser concluded that we need to “build more sky towers – especially in California”. Virtually everywhere, he found cities to be cleaner than suburbs. And the difference in carbon dioxide emissions between high-density cities and their suburbs (for example, in New York) was the highest. Urban residents of New York can claim on average to produce nearly 15,000 pounds of carbon dioxide less than their suburban peers.

E. Another negative aspect of suburban life is its stifling conformity and monotony of social experience. It was not just the nuts and bolts and the concrete foundations of suburban houses that got replicated street upon street, block upon block, and suburb upon suburb; it was everything from the shops and cultural life to people’s hopes, dreams, and aspirations. Suburbia gave birth to the “strip mall”, a retail establishment that is typically composed of a collection of national or global chain stores, all stocked with a centrally dictated, homogenous array of products. The isolation and lack of interaction in suburbs has also encouraged the popularity of television, a passively receptive medium for the viewer that, in the early days at least, offered an extremely limited scope of cultural exposure compared with the wealth of experiences available in the inner city. Meanwhile, much of the inner-city “public sphere” has been lost with suburban flight. The public sphere is the area of social life in which people come together to freely discuss and identify social problems. In the city, this has traditionally occurred around newsstands, in coffee houses, salons, theatres, meeting halls, and so on. Suburbia has not found a way to replace this special type of social experience, however.

Social meeting points in the suburbs tend to be based exclusively around specific interests such as sports or cultural clubs, with no broad forms of daily social interaction.

F. These points do not suggest the idea of suburbia itself is flawed, but that it has not been executed in a way that takes into account the full spectrum of human needs and desires. This likely reflects the hasty, thrown-together nature of early suburban development. With the baby boom rippling across Western countries and demand for family-friendly housing skyrocketing, developers and city planners were unable to develop sophisticated models. Now, however, we should take time to consider what has gone wrong and how we can reconfigure the suburb. How can we imbue suburban life with the lost sphere of public discussion and debate? How can people maintain their sought after privacy without sacrificing a sense of community? How can we use new technologies to make suburbs environmentally friendly? These are questions for which the developers of tomorrow will have to find answers, lest the dream of suburbia become the nightmare of disturbia.

Questions 27-31

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

27 A reason to construct taller buildings

28 Where people might discuss issues of societal concern in urban locations

29 The founder of what is broadly understood as contemporary 'suburbs'

30 Examples of problems suffered by the youth that suburban lifestyle can make worse

31 A model for suburban development in the latter half of the 20th century

Questions 32-38

Do the following statements agree with the information given in Reading Passage 3?

In boxes 32-38 on your answer sheet, write

YES if the statement agrees with the views of the writer

NO if the statement contradicts the views of the writer

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

32 A good principle for ecological preservation is to avoid human interference.

33 In some countries, suburbs are more environmentally friendly than in the USA.

34 Suburban development fosters the use of both public and private forms of transport

35 People cannot relate to each other in suburbs because their lives are too different.

36 There is not much variety amongst the goods at a strip mall.

37 Television has not tended to offer the same diversity as urban cultural outlets.

38 There are numerous of ways of communication and interaction between people living in the suburbs.

Questions 39-40

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

Write your answers in boxes 39-40 on your answer sheet.

Which **TWO** of the following does the author conclude?

A The very concept of a healthy suburban lifestyle is problematic.

B The speed of suburban growth has contributed to its imperfections.

C By thinking about human and ecological needs, suburbs can become better places to live.

D Developers will have to think about ways of living that do not require suburbs.

E Suburbs have their downsides, but they are the best way for parents to raise children.

Reading Mock Test 10 Answers:

1. diving bell
2. fasten explosive devices
3. compressed air (system)
4. 1864
5. gasoline
6. less explosive
7. sail planes
8. periscope
9. radio antenna
10. rudder
11. propeller
12. stem planes
13. outer hull
14. A
15. A
16. D
17. yes
18. not given
19. not given
20. yes
21. no
22. A
23. B
24. C
25. A
26. C
27. D

28. E

29. A

30. C

31. B

32. yes

33. not given

34. no

35. no

36. yes

37. yes

38. no

39. B

40. C

READING MOCK TEST 11

SECTION 1

(Source : Cambridge Guide to IELTS)

Reading Passage 1

For the century before Johnson's Dictionary was published in 1775, there had been concern about the state of the English language. There was no standard way of speaking or writing and no agreement as to the best way of bringing some order to the chaos of English spelling. Dr Johnson provided the solution.

There had, of course, been dictionaries in the past, the first of these being a little book of some 120 pages, compiled by a certain Robert Cawdray, published in 1604 under the title *A Table Alphabetical of hard usual English words*. Like the various dictionaries that came after it during the seventeenth century, Cawdray's tended to concentrate on 'scholarly' words; one function of the dictionary was to enable its student to convey an impression of fine learning.

Beyond the practical need to make order out of chaos, the rise of dictionaries is associated with the rise of the English middle class, who were anxious to define and circumscribe the various worlds to conquer -lexical as well as social and commercial. It is highly appropriate that Dr Samuel Johnson, the very model of an eighteenth-century literary man, as famous in his own time as in ours, should have published his Dictionary at the very beginning of the heyday of the middle class.

Johnson was a poet and critic who raised common sense to the heights of genius. His approach to the problems that had worried writers throughout the late seventeenth and early eighteenth centuries was intensely practical. Up until his time, the task of producing a dictionary on such a large scale had seemed impossible without the establishment of an academy to make decisions about right and wrong usage. Johnson decided he did not need an academy to settle arguments about language; he would write a dictionary himself; and he would do it single-handed. Johnson signed the contract for the Dictionary with the bookseller Robert Dossley at a breakfast held at the Golden Anchor Inn near Holborn Bar on 18 June 1764. He was to be paid £1,575 in instalments, and from this he took money to rent 17 Gough Square, in which he set up his 'dictionary workshop'.

James Boswell, his biographer described the garret where Johnson worked as 'fitted up like a counting house' with a long desk running down the middle at which the copying clerks would work standing up. Johnson himself was stationed on a rickety chair at an 'old crazy deal table' surrounded by a chaos of borrowed books. He was also helped by six assistants, two of whom died whilst the Dictionary was still in preparation.

The work was immense; filing about eighty large notebooks (and without a library to hand), Johnson wrote the definitions of over 40,000 words, and illustrated their many meanings with some 114,000 quotations drawn from English writing on every subject, from the Elizabethans to his own time. He did not expect to achieve complete originality. Working to a deadline, he had to draw on the best of all previous dictionaries, and to make his work one of heroic synthesis. In fact, it was very much more. Unlike his predecessors, Johnson treated English very practically, as a living language, with many different shades of meaning. He adopted his definitions on the principle of English common law – according to precedent. After its publication, his Dictionary was not seriously rivalled for over a century.

After many vicissitudes the Dictionary was finally published on 15 April 1775. It was instantly recognised as a landmark throughout Europe. 'This very noble work;' wrote the leading Italian

lexicographer, will be a perpetual monument of Fame to the Author, an Honour to his own Country in particular, and a general Benefit to the republic of Letters throughout Europe. The fact that Johnson had taken on the Academies of Europe and matched them (everyone knew that forty French academics had taken forty years to produce the first French national dictionary) was cause for much English celebration.

Johnson had worked for nine years, 'with little assistance of the learned, and without any patronage of the great; not in the soft obscurities of retirement, or under the shelter of academic bowers, but amidst inconvenience and distraction, in sickness and in sorrow'. For all its faults and eccentricities his two-volume work is a masterpiece and a landmark, in his own words, 'setting the orthography, displaying the analogy, regulating the structures, and ascertaining the significations of English words'. It is the cornerstone of Standard English, an achievement which, in James Boswell's words, 'conferred stability on the language of his country'.

The Dictionary, together with his other writing, made Johnson famous and so well esteemed that his friends were able to prevail upon King George III to offer him a pension. From then on, he was to become the Johnson of folklore.

Questions 1-3

Choose **THREE** letters A-H. Write your answers in boxes 1-3 on your answer sheet.
NB Your answers may be given in any order.

Which **THREE** of the following statements are true of Johnson's Dictionary?

- A It avoided all scholarly words.
- B It was the only English dictionary in general use for 200 years.
- C It was famous because of the large number of people involved.
- D It focused mainly on language from contemporary texts.
- E There was a time limit for its completion.
- F It ignored work done by previous dictionary writers.
- G It took into account subtleties of meaning.
- H Its definitions were famous for their originality.

Questions 4-7

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

In 1764 Dr Johnson accepted the contract to produce a dictionary. Having rented a garret, he took on a number of (4) , who stood at a long central desk. Johnson did not have a (5) available to him, but eventually produced definitions of in excess of 40,000 words written down in 80 large notebooks. On publication, the Dictionary was immediately hailed in many European countries as a landmark. According to his biographer, James Boswell, Johnson's principal achievement was to bring (6) to the English language. As a reward for his hard work, he was granted a (7) by the king.

Questions 8-13

Do the following statements agree with the information given in Reading Passage 1? In boxes 8-13 on your answer sheet, write

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

- 8) The growing importance of the middle classes led to an increased demand for dictionaries.
- 9) Johnson has become more well known since his death.
- 10) Johnson had been planning to write a dictionary for several years.
- 11) Johnson set up an academy to help with the writing of his Dictionary.
- 12) Johnson only received payment for his Dictionary on its completion.
- 13) Not all of the assistants survived to see the publication of the Dictionary.

SECTION 2

Nature or Nurture?

A A few years ago, in one of the most fascinating and disturbing experiments in behavioural psychology, Stanley Milgram of Yale University tested 40 subjects from all walks of life for their willingness to obey instructions given by a 'leader' in a situation in which the subjects might feel a personal distaste for the actions they were called upon to perform. Specifically, Milgram told each volunteer 'teacher-subject' that the experiment was in the noble cause of education, and was designed to test whether or not punishing pupils for their mistakes would have a positive effect on the pupils' ability to learn.

B Milgram's experimental set-up involved placing the teacher-subject before a panel of thirty switches with labels ranging from '15 volts of electricity (slight shock)' to '450 volts (danger – severe shock)' in steps of 15 volts each. The teacher-subject was told that whenever the pupil gave the wrong answer to a question, a shock was to be administered, beginning at the lowest level and increasing in severity with each successive wrong answer. The supposed 'pupil' was in reality an actor hired by Milgram to simulate receiving the shocks by emitting a spectrum of groans, screams and writhings together with an assortment of statements and expletives denouncing both the experiment and the experimenter. Milgram told the teacher-subject to ignore the reactions of the pupil, and to administer whatever level of shock was called for, as per the rule governing the experimental situation of the moment.

C As the experiment unfolded, the pupil would deliberately give the wrong answers to questions posed by the teacher, thereby bringing on various electrical punishments, even up to the danger level of 300 volts and beyond. Many of the teacher-subjects balked at administering the higher levels of punishment, and turned to Milgram with questioning looks and/or complaints about continuing the experiment. In these situations, Milgram calmly explained that the teacher-subject was to ignore the pupil's cries for mercy and carry on with the experiment. If the subject was still reluctant to proceed, Milgram said that it was important for the sake of the experiment that the procedure be followed through to the end. His final argument was, 'You have no other choice. You must go on.' What Milgram was trying to discover was the number of teacher-subjects who would be willing to administer the highest levels of shock, even in the face of strong personal and moral revulsion against the rules and conditions of the experiment.

D Prior to carrying out the experiment, Milgram explained his idea to a group of 39 psychiatrists and asked them to predict the average percentage of people in an ordinary population who would be willing to administer the highest shock level of 450 volts. The overwhelming consensus was that virtually all the out teacher-subjects would refuse to obey the experimenter. The psychiatrists felt that 'most subjects would not go beyond 150 volts' and they further anticipated that only four per cent would go up to 300 volts. Furthermore, they thought that only a lunatic fringe of about one in 1,000 would give the highest shock of 450 volts. Furthermore, they thought that only a lunatic cringe of about one in 1,000 would give the highest shock of 450 volts.

E What were the actual results? Well, over 60 per cent of the teacher-subjects continued to obey Milgram up to the 450-volt limit! In repetitions of the experiment in other countries, the percentage of obedient teacher-subjects was even higher, reaching 85 per cent in one country. How can we possibly account for this vast discrepancy between what calm, rational, knowledgeable people predict in the comfort of their study and what pressured, flustered, but cooperative teachers' actually do in the laboratory of real life?

F One's first inclination might be to argue that there must be some sort of built-in animal aggression instinct that was activated by the experiment, and that Milgram's teacher-subjects were just following a genetic need to discharge this pent-up primal urge onto the pupil by administering the electrical shock. A modern hard-core sociobiologist might even go so far as to claim that this aggressive instinct evolved as an advantageous trait, having been of survival value to our ancestors in their struggle against the hardships of life on the plains and in the caves, ultimately finding its way into our genetic make-up as a remnant of our ancient animal ways.

G An alternative to this notion of genetic programming is to see the teacher-subjects' actions as a result of the social environment under which the experiment was carried out. As Milgram himself pointed out, 'Most subjects in the experiment see their behaviour in a larger context that is benevolent and useful to society – the pursuit of scientific truth. The psychological laboratory has a strong claim to legitimacy and evokes trust and confidence in those who perform there. An action such as shocking a victim, which in isolation appears evil, acquires a completely different meaning when placed in this setting.'

H Thus, in this explanation the subject merges his unique personality and personal and moral code with that of larger institutional structures, surrendering individual properties like loyalty, self-sacrifice and discipline to the service of malevolent systems of authority.

I Here we have two radically different explanations for why so many teacher-subjects were willing to forgo their sense of personal responsibility for the sake of an institutional authority figure. The problem for biologists, psychologists and anthropologists is to sort which of these two polar explanations is more plausible. This, in essence, is the problem of modern sociobiology – to discover the degree to which hard-wired genetic programming dictates, or at least strongly biases, the interaction of animals and humans with their environment, that is, their behaviour. Put another way, sociobiology is concerned with elucidating the biological basis of all behaviour.

Questions 14-19

Reading Passage 2 has nine paragraphs, A-I. Which paragraph contains the following information?

Write the correct letter A-I in boxes 14-19 on your answer sheet.

- 14 a biological explanation of the teacher-subjects' behaviour
- 15 the explanation Milgram gave the teacher-subjects for the experiment
- 16 the identity of the pupils
- 17 the expected statistical outcome
- 18 the general aim of sociobiological study
- 19 the way Milgram persuaded the teacher-subjects to continue

Questions 20-22

Choose the correct letter. A, B, C or D. Write your answers in boxes 20-22 on your answer sheet.

20 The teacher-subjects were told that they were testing whether

- A a 450-volt shock was dangerous
- B punishment helps learning
- C the pupils were honest
- D they were suited to teaching

21 The teacher-subjects were instructed to

- A stop when a pupil asked them to
- B denounce pupils who made mistakes
- C reduce the shock level after a correct answer
- D give punishment according to a rule

22 Before the experiment took place the psychiatrists

- A believed that a shock of 150 volts was too dangerous
- B failed to agree on how the teacher-subjects would respond to instructions
- C underestimated the teacher-subjects' willingness to comply with experimental procedure
- D thought that many of the teacher-subjects would administer a shock of 450 volts

Questions 23-26

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 agrees with the information
- FALSE** if the statement contradicts the information
- NOT GIVEN** if there is no information on this

23 Several of the subjects were psychology students at Yale University.

24 Some people may believe that the teacher-subjects' behaviour could be explained as a positive survival mechanism.

25 In a sociological explanation, personal values are more powerful than authority.

26 Milgram's experiment solves an important question in sociobiology.

SECTION 3

The Truth About the Environment

For many environmentalists, the world seems to be getting worse. They have developed a hit-list of our main fears: that natural resources are running out; that the population is ever growing, leaving less and less to eat; that species are becoming extinct in vast numbers, and that the planet's air and water are becoming ever more polluted.

But a quick look at the facts shows a different picture. First, energy and other natural resources have become more abundant, not less so, since the book 'The limits to Growth' was published in 1972 by a group of scientists. Second, more food is now produced per head of the world's population than at any time in history. Fewer people are starving. Third, although species are indeed becoming extinct, only about 0.7% of them are expelled to disappear in the next 50 years, not 25-50%, as has so often been predicted. And finally, most forms of environmental pollution either appear to have been exaggerated, or are transient – associated with the early phases of industrialisation and therefore best cured not by restricting economic growth, but by accelerating it. One form of pollution – the

release of greenhouse gases that causes global warming – does appear to be a phenomenon that is going to extend well into our future, but its total impact is unlikely to pose a devastating problem. A bigger problem may well turn out to be an inappropriate response to it.

Yet opinion polls suggest that many people nurture the belief that environmental standards are declining and four factors seem to cause this disjunction between perception and reality.

One is the lopsidedness built into scientific research. Scientific funding goes mainly to areas with many problems. That may be wise policy but it will also create an impression that many more potential problems exist than is the case.

Secondly, environmental groups need to be noticed by the mass media. They also need to keep the money rolling in. Understandably, perhaps, they sometimes overstate their arguments. In 1997, for example, the World Wide Fund for Nature issued a press release entitled: 'Two thirds of the world's forests lost forever'. The truth turns out to be nearer 20%.

Though these groups are run overwhelmingly by selfless folk, they nevertheless share many of the characteristics of other lobby groups. That would matter less if people applied the same degree of scepticism to environmental lobbying as they do to lobby groups in other fields. A trade organisation arguing for, say, weaker pollution control is instantly seen as self-interested. Yet a green organisation opposing such a weakening is seen as altruistic, even if an impartial view of the controls in question might suggest they are doing more harm than good.

A third source of confusion is the attitude of the media. People are dearly more curious about bad news than good. Newspapers and broadcasters are there to provide what the public wants. That, however, can lead to significant distortions of perception. An example was America's encounter with El Nino in 1997 and 1998. This climatic phenomenon was accused of wrecking tourism, causing allergies, melting the ski-slopes, and causing 22 deaths. However, according to an article in the Bulletin of the American Meteorological Society, the damage it did was estimated at US\$4 billion but the benefits amounted to some US\$19 billion. These came from higher winter temperatures (which saved an estimated 850 lives, reduced heating costs and diminished spring floods caused by meltwaters).

The fourth factor is poor individual perception. People worry that the endless rise in the amount of stuff everyone throws away will cause the world to run out of places to dispose of waste. Yet, even if America's trash output continues to rise as it has done in the past, and even if the American population doubles by 2100, all the rubbish America produces through the entire 21st century will still take up only one-12,000th of the area of the entire United States.

So what of global warming? As we know, carbon dioxide emissions are causing the planet to warm. The best estimates are that the temperatures will rise by 2-3°C in this century, causing considerable problems, at a total cost of US\$5,000 billion.

Despite the intuition that something drastic needs to be done about such a costly problem, economic analyses dearly show it will be far more expensive to cut carbon dioxide emissions radically than to pay the costs of adaptation to the increased temperatures. A model by one of the main authors of the United Nations Climate Change Panel shows how an expected temperature increase of 2.1 degrees in 2100 would only be diminished to an increase of 1.9 degrees. Or to put it another way, the temperature increase that the planet would have experienced in 2094 would be postponed to 2100.

So this does not prevent global warming, but merely buys the world six years. Yet the cost of reducing carbon dioxide emissions, for the United States alone, will be higher than the cost of solving the world's single, most pressing health problem: providing universal access to clean drinking water and sanitation. Such measures would avoid 2 million deaths every year, and prevent half a billion people from becoming seriously ill.

It is crucial that we look at the facts if we want to make the best possible decisions for the future. It may be costly to be overly optimistic – but more costly still to be too pessimistic.

Questions 27-32

Do the following statements agree with the information given in Reading Passage 3?
In boxes 27-32 on your answer sheet, write

- YES** if the statement agrees with the writer's claims
NO if the statement contradicts the writer's claims
NOT GIVEN if there is impossible to say what the writer thinks about this

- 27 Environmentalists take a pessimistic view of the world for a number of reasons.
28 Data on the Earth's natural resources has only been collected since 1972.
29 The number of starving people in the world has increased in recent years.
30 Extinct species are being replaced by new species.
31 Some pollution problems have been correctly linked to industrialisation.
32 It would be best to attempt to slow down economic growth.

Questions 33-37

Choose the correct letter, A, B, C or D. Write your answers in boxes 33-37 on your answer sheet.

33 What aspect of scientific research does the writer express concern about in paragraph 4?

- A** the need to produce results
B the lack of financial support
C the selection of areas to research
D the desire to solve every research problem

34 The writer quotes from the Worldwide Fund for Nature to illustrate how

- A** influential the mass media can be
B effective environmental groups can be
C the mass media can help groups raise funds
D environmental groups can exaggerate their claims

35 What is the writer's main point about lobby groups in paragraph 6?

- A** Some are more active than others
B Some are better organised than others
C Some receive more criticism than others
D Some support more important issues than others

36 The writer suggests that newspapers print items that are intended to

- A** educate readers
B meet their readers' expectations
C encourage feedback from readers
D mislead readers

37 What does the writer say about America's waste problem?

- A It will increase in line with population growth
- B It is not as important as we have been led to believe
- C It has been reduced through public awareness of the issues
- D It is only significant in certain areas of the country

Questions 38-40

Complete the summary with the list of words A-I below. Write the correct letter A-I in boxes 38-40 on your answer sheet.

GLOBAL WARMING

The writer admits that global warming is a (38) challenge, but says that it will not have a catastrophic impact on our future, if we deal with it in the (39) way. If we try to reduce the levels of greenhouse gases, he believes that it would only have a minimal impact on rising temperatures. He feels it would be better to spend money on the more (40) health problem of providing the world's population with clean drinking water.

A unrealistic	B agreed	C expensive	D right	E long-term
F usual	G surprising	H personal	I urgent	



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Reading Mock Test 11 Answers:

1. D
2. E
3. G
4. copying clerks
5. library
6. stability
7. pension
8. true
9. false
10. not given
11. false
12. false
13. true
14. F
15. A
16. B
17. D
18. E
19. C
20. B
21. D
22. C
23. not given
24. true
25. false
26. false

27. yes

28. not given

29. no

30. not given

31. yes

32. no

33. C

34. D

35. C

36. B

37. B

38. E

39. D

40. I

READING MOCK TEST 12

SECTION 1

(Source : Cambridge Guide to IELTS)

Reading Passage 1

A Hearing impairment or other auditory function deficit in young children can have a major impact on their development of speech and communication, resulting in a detrimental effect on their ability to learn at school. This is likely to have major consequences for the individual and the population as a whole. The New Zealand Ministry of Health has found from research carried out over two decades that 6-10% of children in that country are affected by hearing loss.

B A preliminary study in New Zealand has shown that classroom noise presents a major concern for teachers and pupils. Modern teaching practices, the organisation of desks in the classroom, poor classroom acoustics, and mechanical means of ventilation such as air-conditioning units all contribute to the number of children unable to comprehend the teacher's voice. Education researchers Nelson and Soli have also suggested that recent trends in learning often involve collaborative interaction of multiple minds and tools as much as individual possession of information. This all amounts to heightened activity and noise levels, which have the potential to be particularly serious for children experiencing auditory function deficit. Noise in classrooms can only exacerbate their difficulty in comprehending and processing verbal communication with other children and instructions from the teacher.

C Children with auditory function deficit are potentially failing to learn to their maximum potential because of noise levels generated in classrooms. The effects of noise on the ability of children to learn effectively in typical classroom environments are now the subject of increasing concern. The International Institute of Noise Control Engineering (I-INCE), on the advice of the World Health Organization, has established an international working party, which includes New Zealand, to evaluate noise and reverberation control for school rooms.

D While the detrimental effects of noise in classroom situations are not limited to children experiencing disability, those with a disability that affects their processing of speech and verbal communication could be extremely vulnerable. The auditory function deficits in question include hearing impairment, autistic spectrum disorders (ASD) and attention deficit disorders (ADD/ADHD).

E Autism is considered a neurological and genetic life-long disorder that causes discrepancies in the way information is processed. This disorder is characterised by interlinking problems with social imagination, social communication and social interaction. According to Janzen, this affects the ability to understand and relate in typical ways to people, understand events and objects in the environment, and understand or respond to sensory stimuli. Autism does not allow learning or thinking in the same ways as in children who are developing normally.

Autistic spectrum disorders often result in major difficulties in comprehending verbal information and speech processing. Those experiencing these disorders often find sounds such as crowd noise and the noise generated by machinery painful and distressing. This is difficult to scientifically quantify as such extra-sensory stimuli vary greatly from one autistic individual to another. But a child who finds any type of noise in their classroom or learning space intrusive is likely to be adversely affected in their ability to process information.

F The attention deficit disorders are indicative of neurological and genetic disorders and are characterised by difficulties with sustaining attention, effort and persistence, organisation skills and

disinhibition. Children experiencing these disorders find it difficult to screen out unimportant information, and focus on everything in the environment rather than attending to a single activity. Background noise in the classroom becomes a major distraction, which can affect their ability to concentrate.

G Children experiencing an auditory function deficit can often find speech and communication very difficult to isolate and process when set against high levels of background noise. These levels come from outside activities that penetrate the classroom structure, from teaching activities, and other noise generated inside, which can be exacerbated by room reverberation. Strategies are needed to obtain the optimum classroom construction and perhaps a change in classroom culture and methods of teaching. In particular, the effects of noisy classrooms and activities on those experiencing disabilities in the form of auditory function deficit need thorough investigation. It is probable that many undiagnosed children exist in the education system with 'invisible' disabilities. Their needs are less likely to be met than those of children with known disabilities.

H The New Zealand Government has developed a New Zealand Disability Strategy and has embarked on a wide-ranging consultation process. The strategy recognises that people experiencing disability face significant barriers in achieving a full quality of life in areas such as attitude, education, employment and access to services. Objective 3 of the New Zealand Disability Strategy is to 'Provide the Best Education for Disabled People' by improving education so that all children, youth learners and adult learners will have equal opportunities to learn and develop within their already existing local school. For a successful education, the learning environment is vitally significant, so any effort to improve this is likely to be of great benefit to all children, but especially to those with auditory function disabilities.

I A number of countries are already in the process of formulating their own standards for the control and reduction of classroom noise. New Zealand will probably follow their example. The literature to date on noise in school rooms appears to focus on the effects on schoolchildren in general, their teachers and the hearing impaired. Only limited attention appears to have been given to those students experiencing the other disabilities involving auditory function deficit. It is imperative that the needs of these children are taken into account in the setting of appropriate international standards to be promulgated in future.

Questions 1-6

Reading Passage 1 has nine sections, A-I. Which section contains the following information? Write the correct letter, A-I, in boxes 1-6 on your answer sheet.

- 1 an account of a national policy initiative
- 2 a description of a global team effort
- 3 a hypothesis as to one reason behind the growth in classroom noise
- 4 a demand for suitable worldwide regulations
- 5 a list of medical conditions which place some children more at risk from noise than others
- 6 the estimated proportion of children in New Zealand with auditory problems

Questions 7-10

Answer the questions below. Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage.

- 7 For what period of time has hearing loss in schoolchildren been studied in New Zealand?
- 8 In addition to machinery noise, what other type of noise can upset children with autism?
- 9 What term is used to describe the hearing problems of schoolchildren which have not been

diagnosed?

10 What part of the New Zealand Disability Strategy aims to give schoolchildren equal opportunity?

Questions 11 and 12

Choose TWO letters, A-F. Write the correct letters in boxes 11 and 12 on your answer sheet.

The list below includes factors contributing to classroom noise.

Which **TWO** are mentioned by the writer of the passage?

- A current teaching methods
- B echoing corridors
- C cooling systems
- D large class sizes
- E loud-voiced teachers
- F playground games

Question 13

Choose the correct letter, A, B, C or D. Write the correct letter in box 13 on your answer sheet.

What is the writer's overall purpose in writing this article?

- A to compare different methods of dealing with auditory problems
- B to provide solutions for overly noisy learning environments
- C to increase awareness of the situation of children with auditory problems
- D to promote New Zealand as a model for other countries to follow

SECTION 2

Venus in Transit

A On 8 June 2004, more than half the population of the world were treated to a rare astronomical event. For over six hours, the planet Venus steadily inched its way over the surface of the Sun. This 'transit' of Venus was the first since 6 December 1882. On that occasion, the American astronomer Professor Simon Newcomb led a party to South Africa to observe the event. They were based at a girls' school, where – it is alleged – the combined forces of three schoolmistresses outperformed the professionals with the accuracy of their observations.

B For centuries, transits of Venus have drawn explorers and astronomers alike to the four corners of the globe. And you can put it all down to the extraordinary polymath Edmond Halley. In November 1677, Halley observed a transit of the innermost planet, Mercury, from the desolate island of St Helena in the South Pacific. He realised that, from different latitudes, the passage of the planet across the Sun's disc would appear to differ. By timing the transit from two widely-separated locations, teams of astronomers could calculate the parallax angle – the apparent difference in position of an astronomical body due to a difference in the observer's position. Calculating this angle would allow astronomers to measure what was then the ultimate goal: the distance of the Earth from the Sun. This distance is known as the 'astronomical unit' or AU.

C Halley was aware that the AU was one of the most fundamental of all astronomical measurements. Johannes Kepler, in the early 17th century, had shown that the distances of the planets from the Sun governed their orbital speeds, which were easily measurable. But no-one had found a way to calculate accurate distances to the planets from the Earth. The goal was to measure the AU; then, knowing the orbital speeds of all the other planets round the Sun, the scale of the Solar System

would fall into place. However, Halley realised that Mercury was so far away that its parallax angle would be very difficult to determine. As Venus was closer to the Earth, its parallax angle would be larger, and Halley worked out that by using Venus it would be possible to measure the Sun's distance to 1 part in 500. But there was a problem: transits of Venus, unlike those of Mercury, are rare, occurring in pairs roughly eight years apart every hundred or so years. Nevertheless, he accurately predicted that Venus would cross the face of the Sun in both 1761 and 1769 – though he didn't survive to see either.

D Inspired by Halley's suggestion of a way to pin down the scale of the Solar System, teams of British and French astronomers set out on expeditions to places as diverse as India and Siberia. But things weren't helped by Britain and France being at war. The person who deserves most sympathy is the French astronomer Guillaume Le Gentil. He was thwarted by the fact that the British were besieging his observation site at Pondicherry in India. Fleeing on a French warship crossing the Indian Ocean, Le Gentil saw a wonderful transit – but the ship's pitching and rolling ruled out any attempt at making accurate observations. Undaunted, he remained south of the equator, keeping himself busy by studying the islands of Mauritius and Madagascar before setting off to observe the next transit in the Philippines. Ironically after travelling nearly 50,000 kilometres, his view was clouded out at the last moment, a very dispiriting experience.

E While the early transit timings were as precise as instruments would allow, the measurements were dogged by the 'black drop' effect. When Venus begins to cross the Sun's disc, it looks smeared not circular – which makes it difficult to establish timings. This is due to diffraction of light. The second problem is that Venus exhibits a halo of light when it is seen just outside the Sun's disc. While this showed astronomers that Venus was surrounded by a thick layer of gases refracting sunlight around it, both effects made it impossible to obtain accurate timings.

F But astronomers laboured hard to analyse the results of these expeditions to observe Venus transits. Johann Franz Encke, Director of the Berlin Observatory, finally determined a value for the AU based on all these parallax measurements: 153,340,000 km. Reasonably accurate for the time, that is quite close to today's value of 149,597,870 km, determined by radar, which has now superseded transits and all other methods in accuracy. The AU is a cosmic measuring rod, and the basis of how we scale the Universe today. The parallax principle can be extended to measure the distances to the stars. If we look at a star in January – when Earth is at one point in its orbit – it will seem to be in a different position from where it appears six months later. Knowing the width of Earth's orbit, the parallax shift lets astronomers calculate the distance.

G June 2004's transit of Venus was thus more of an astronomical spectacle than a scientifically important event. But such transits have paved the way for what might prove to be one of the most vital breakthroughs in the cosmos – detecting Earth-sized planets orbiting other stars.

Questions 14-17

Reading Passage 2 has seven paragraphs, A-G. Which paragraph contains the following information?

14 examples of different ways in which the parallax principle has been applied

15 a description of an event which prevented a transit observation

16 a statement about potential future discoveries leading on from transit observations

17 a description of physical states connected with Venus which early astronomical instruments failed to overcome

Questions 18-21

Look at the following statements (Questions 18-21) 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 18-21 on your answer sheet.

18 He calculated the distance of the Sun from the Earth based on observations of Venus with a fair degree of accuracy.

19 He understood that the distance of the Sun from the Earth could be worked out by comparing observations of a transit.

20 He realised that the time taken by a planet to go round the Sun depends on its distance from the Sun.

21 He witnessed a Venus transit but was unable to make any calculations.

List of People

A Edmond Halley

B Johannes Kepler

C Guillaume Le Gentil

D Johann Franz Encke

Questions 22-26

Do the following statements agree with the information given 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 Halley observed one transit of the planet Venus.

23 Le Gentil managed to observe a second Venus transit.

24 The shape of Venus appears distorted when it starts to pass in front of the Sun.

25 Early astronomers suspected that the atmosphere on Venus was toxic.

26 The parallax principle allows astronomers to work out how far away distant stars are from the Earth.

SECTION 3

A Neuroscientist Reveals How To Think Differently

In the last decade a revolution has occurred in the way that scientists think about the brain. We now know that the decisions humans make can be traced to the firing patterns of neurons in specific parts of the brain. These discoveries have led to the field known as neuroeconomics, which studies the brain's secrets to success in an economic environment that demands innovation and being able to do things differently from competitors. A brain that can do this is an iconoclastic one. Briefly, an iconoclast is a person who does something that others say can't be done.

This definition implies that iconoclasts are different from other people, but more precisely, it is their brains that are different in three distinct ways: perception, fear response, and social intelligence. Each of these three functions utilizes a different circuit in the brain. Naysayers might suggest that the brain is irrelevant, that thinking in an original, even revolutionary, way is more a matter of personality than brain function. But the field of neuroeconomics was born out of the realization that

the physical workings of the brain place limitations on the way we make decisions. By understanding these constraints, we begin to understand why some people march to a different drumbeat.

The first thing to realize is that the brain suffers from limited resources. It has a fixed energy budget, about the same as a 40 watt light bulb, so it has evolved to work as efficiently as possible. This is where most people are impeded from being an iconoclast. For example, when confronted with information streaming from the eyes, the brain will interpret this information in the quickest way possible. Thus it will draw on both past experience and any other source of information, such as what other people say, to make sense of what it is seeing. This happens all the time. The brain takes shortcuts that work so well we are hardly ever aware of them. We think our perceptions of the world are real, but they are only biological and electrical rumblings. Perception is not simply a product of what your eyes or ears transmit to your brain. More than the physical reality of photons or sound waves, perception is a product of the brain.

Perception is central to iconoclasm. Iconoclasts see things differently to other people. Their brains do not fall into efficiency pitfalls as much as the average person's brain. Iconoclasts, either because they were born that way or through learning, have found ways to work around the perceptual shortcuts that plague most people. Perception is not something that is hardwired into the brain. It is a learned process, which is both a curse and an opportunity for change. The brain faces the fundamental problem of interpreting physical stimuli from the senses. Everything the brain sees, hears, or touches has multiple interpretations. The one that is ultimately chosen is simply the brain's best theory. In technical terms, these conjectures have their basis in the statistical likelihood of one interpretation over another and are heavily influenced by past experience and, importantly for potential iconoclasts, what other people say.

The best way to see things differently to other people is to bombard the brain with things it has never encountered before. Novelty releases the perceptual process from the chains of past experience and forces the brain to make new judgments. Successful iconoclasts have an extraordinary willingness to be exposed to what is fresh and different. Observation of iconoclasts shows that they embrace novelty while most people avoid things that are different.

The problem with novelty, however, is that it tends to trigger the brain's fear system. Fear is a major impediment to thinking like an iconoclast and stops the average person in his tracks. There are many types of fear, but the two that inhibit iconoclastic thinking and people generally find difficult to deal with are fear of uncertainty and fear of public ridicule. These may seem like trivial phobias. But fear of public speaking, which everyone must do from time to time, afflicts one-third of the population. This makes it too common to be considered a mental disorder. It is simply a common variant of human nature, one which iconoclasts do not let inhibit their reactions.

Finally, to be successful iconoclasts, individuals must sell their ideas to other people. This is where social intelligence comes in. Social intelligence is the ability to understand and manage people in a business setting. In the last decade there has been an explosion of knowledge about the social brain and how the brain works when groups coordinate decision making. Neuroscience has revealed which brain circuits are responsible for functions like understanding what other people think, empathy, fairness, and social identity. These brain regions play key roles in whether people convince others of their ideas. Perception is important in social cognition too. The perception of someone's enthusiasm, or reputation, can make or break a deal. Understanding how perception becomes intertwined with social decision making shows why successful iconoclasts are so rare.

Iconoclasts create new opportunities in every area from artistic expression to technology to business. They supply creativity and innovation not easily accomplished by committees. Rules aren't important to them. Iconoclasts face alienation and failure, but can also be a major asset to any organization. It is crucial for success in any field to understand how the iconoclastic mind works.

Questions 27-31

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

27 Neuroeconomics is a field of study which seeks to

- A cause a change in how scientists understand brain chemistry.
- B understand how good decisions are made in the brain.
- C understand how the brain is linked to achievement in competitive fields.
- D trace the specific firing patterns of neurons in different areas of the brain.

28 According to the writer, iconoclasts are distinctive because

- A they create unusual brain circuits
- B their brains function differently
- C their personalities are distinctive
- D they make decisions easily

29 According to the writer, the brain works efficiently because

- A it uses the eyes quickly
- B it interprets data logically
- C it generates its own energy
- D it relies on previous events

30 The writer says that perception is

- A a combination of photons and sound waves
- B a reliable product of what your senses transmit
- C a result of brain processes
- D a process we are usually conscious of

31 According to the writer, an iconoclastic thinker

- A centralises perceptual thinking in one part of the brain
- B avoids cognitive traps
- C has a brain that is hardwired for learning
- D has more opportunities than the average person

Questions 32-37

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

In boxes 32-37 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

32 Exposure to different events forces the brain to think differently.

33 Iconoclasts are unusually receptive to new experiences.

34 Most people are too shy to try different things.

35 If you think in an iconoclastic way, you can easily overcome fear.

36 When concern about embarrassment matters less, other fears become irrelevant.

37 Fear of public speaking is a psychological illness.

Questions 38-40

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

38 Thinking like a successful iconoclast is demanding because it

39 The concept of the social brain is useful to iconoclasts because it

40 Iconoclasts are generally an asset because their way of thinking

A requires both perceptual and social intelligence skills.

B focuses on how groups decide on an action.

C works in many fields, both artistic and scientific.

D leaves one open to criticism and rejection.

E involves understanding how organisations manage people.



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Reading Mock Test 12 Answers:

1. H
2. C
3. B
4. I
5. D
6. A
7. two decades
8. crowd (noise)
9. invisible (disabilities)
10. objective 3
11. A
12. C
13. C
14. F
15. D
16. G
17. E
18. D
19. A
20. B
21. C
22. false
23. false
24. true
25. not given
26. true
27. C

28. B

29. D

30. C

31. B

32. yes

33. yes

34. not given

35. no

36. not given

37. no

38. A

39. B

40. C

READING MOCK TEST 13

SECTION 1

(Source : Cambridge Guide to IELTS)

William Henry Perkin

William Henry Perkin was born on March 12, 1838, in London, England. As a boy, Perkin's curiosity prompted early interests in the arts, sciences, photography, and engineering. But it was a chance stumbling upon a run-down, yet functional, laboratory in his late grandfather's home that solidified the young man's enthusiasm for chemistry.

As a student at the City of London School, Perkin became immersed in the study of chemistry. His talent and devotion to the subject were perceived by his teacher, Thomas Hall, who encouraged him to attend a series of lectures given by the eminent scientist Michael Faraday at the Royal Institution. Those speeches fired the young chemist's enthusiasm further, and he later went on to attend the Royal College of Chemistry, which he succeeded in entering in 1853, at the age of 15.

At the time of Perkin's enrolment, the Royal College of Chemistry was headed by the noted German chemist August Wilhelm Hofmann. Perkin's scientific gifts soon caught Hofmann's attention and, within two years, he became Hofmann's youngest assistant. Not long after that, Perkin made the scientific breakthrough that would bring him both fame and fortune.

At the time, quinine was the only viable medical treatment for malaria. The drug is derived from the bark of the cinchona tree, native to South America, and by 1856 demand for the drug was surpassing the available supply. Thus, when Hofmann made some passing comments about the desirability of a synthetic substitute for quinine, it was unsurprising that his star pupil was moved to take up the challenge.

During his vacation in 1856, Perkin spent his time in the laboratory on the top floor of his family's house. He was attempting to manufacture quinine from aniline, an inexpensive and readily available coal tar waste product. Despite his best efforts, however, he did not end up with quinine. Instead, he produced a mysterious dark sludge. Luckily, Perkin's scientific training and nature prompted him to investigate the substance further. Incorporating potassium dichromate and alcohol into the aniline at various stages of the experimental process, he finally produced a deep purple solution. And, proving the truth of the famous scientist Louis Pasteur's words 'chance favours only the prepared mind', Perkin saw the potential of his unexpected find.

Historically, textile dyes were made from such natural sources as plants and animal excretions. Some of these, such as the glandular mucus of snails, were difficult to obtain and outrageously expensive. Indeed, the purple colour extracted from a snail was once so costly that in society at the time only the rich could afford it. Further, natural dyes tended to be muddy in hue and fade quickly. It was against this backdrop that Perkin's discovery was made.

Perkin quickly grasped that his purple solution could be used to colour fabric, thus making it the world's first synthetic dye. Realising the importance of this breakthrough, he lost no time in patenting it. But perhaps the most fascinating of all Perkin's reactions to his find was his nearly instant recognition that the new dye had commercial possibilities.

Perkin originally named his dye Tyrian Purple, but it later became commonly known as mauve (from the French for the plant used to make the colour violet). He asked advice of Scottish dye works owner Robert Pullar, who assured him that manufacturing the dye would be well worth it if the

colour remained fast (i.e. would not fade) and the cost was relatively low. So, over the fierce objections of his mentor Hofmann, he left college to give birth to the modern chemical industry.

With the help of his father and brother, Perkin set up a factory not far from London. Utilising the cheap and plentiful coal tar that was an almost unlimited byproduct of London's gas street lighting, the dye works began producing the world's first synthetically dyed material in 1857. The company received a commercial boost from the Empress Eugenie of France, when she decided the new colour flattered her. Very soon, mauve was the necessary shade for all the fashionable ladies in that country.

Not to be outdone, England's Queen Victoria also appeared in public wearing a mauve gown, thus making it all the rage in England as well. The dye was bold and fast, and the public clamoured for more. Perkin went back to the drawing board.

Although Perkin's fame was achieved and fortune assured by his first discovery, the chemist continued his research. Among other dyes he developed and introduced were aniline red (1859) and aniline black (1863) and, in the late 1860s, Perkin's green. It is important to note that Perkin's synthetic dye discoveries had outcomes far beyond the merely decorative. The dyes also became vital to medical research in many ways. For instance, they were used to stain previously invisible microbes and bacteria, allowing researchers to identify such bacilli as tuberculosis, cholera, and anthrax. Artificial dyes continue to play a crucial role today. And, in what would have been particularly pleasing to Perkin, their current use is in the search for a vaccine against malaria.

Questions 1-7

Do the following statements agree with the information given in Reading Passage 1? In boxes 1-7 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 more than once.

- 1 Michael Faraday was the first person to recognize Perkin's ability as a student of chemistry.
- 2 Michael Faraday suggested Perkin should enroll in the Royal College of Chemistry.
- 3 Perkin employed August Wilhelm Hofmann as his assistant.
- 4 Perkin was still young when he made the discovery that made him rich and famous.
- 5 The trees from which quinine is derived grow only in South America.
- 6 Perkin hoped to manufacture a drug from a coal tar waste product.
- 7 Perkin was inspired by the discoveries of the famous scientist Louis Pasteur.

Questions 8-13

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

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

- 8 Before Perkin's discovery, with what group in society was the colour purple associated?
- 9 What potential did Perkin immediately understand that his new dye had?
- 10 What was the name finally used to refer to the first color Perkin invented?
- 11 What was the name of the person Perkin consulted before setting up his own dye works?
- 12 In what country did Perkins newly invented colour first become fashionable?
- 13 According to the passage, which disease is now being targeted by researchers using synthetic dyes?

SECTION 2

Is There Anybody Out There?

A The primary reason for the search is basic curiosity – the same curiosity about the natural world that drives all pure science. We want to know whether we are alone in the Universe. We want to know whether life evolves naturally if given the right conditions, or whether there is something very special about the Earth to have fostered the variety of life forms that we see around us on the planet. The simple detection of a radio signal will be sufficient to answer this most basic of all questions. In this sense, SETI is another cog in the machinery of pure science which is continually pushing out the horizon of our knowledge. However, there are other reasons for being interested in whether life exists elsewhere. For example, we have had civilisation on Earth for perhaps only a few thousand years, and the threats of nuclear war and pollution over the last few decades have told us that our survival may be tenuous. Will we last another two thousand years or will we wipe ourselves out? Since the lifetime of a planet like ours is several billion years, we can expect that, if other civilisations do survive in our galaxy, their ages will range from zero to several billion years. Thus any other civilisation that we hear from is likely to be far older, on average, than ourselves. The mere existence of such a civilisation will tell us that long-term survival is possible, and gives us some cause for optimism. It is even possible that the older civilisation may pass on the benefits of their experience in dealing with threats to survival such as nuclear war and global pollution, and other threats that we haven't yet discovered.

B In discussing whether we are alone, most SETI scientists adopt two ground rules. First, UFOs (Unidentified Flying Objects) are generally ignored since most scientists don't consider the evidence for them to be strong enough to bear serious consideration (although it is also important to keep an open mind in case any really convincing evidence emerges in the future). Second, we make a very conservative assumption that we are looking for a life form that is pretty well like us, since if it differs radically from us we may well not recognise it as a life form, quite apart from whether we are able to communicate with it. In other words, the life form we are looking for may well have two green heads and seven fingers, but it will nevertheless resemble us in that it should communicate with its fellows, be interested in the Universe, live on a planet orbiting a star like our Sun, and perhaps most restrictively, have a chemistry, like us, based on carbon and water.

C Even when we make these assumptions, our understanding of other life forms is still severely limited. We do not even know, for example, how many stars have planets, and we certainly do not know how likely it is that life will arise naturally, given the right conditions. However, when we look at the 100 billion stars in our galaxy (the Milky Way), and 100 billion galaxies in the observable Universe, it seems inconceivable that at least one of these planets does not have a life form on it; in fact, the best educated guess we can make, using the little that we do know about the conditions for carbon-based life, leads us to estimate that perhaps one in 100,000 stars might have a life-bearing planet orbiting it. That means that our nearest neighbours are perhaps 100 light years away, which is almost next door in astronomical terms.

D An alien civilisation could choose many different ways of sending information across the galaxy, but many of these either require too much energy, or else are severely attenuated while traversing the vast distances across the galaxy. It turns out that, for a given amount of transmitted power, radio waves in the frequency range 1000 to 3000 MHz travel the greatest distance, and so all searches to date have concentrated on looking for radio waves in this frequency range. So far there have been a number of searches by various groups around the world, including Australian searches using the radio telescope at Parkes, New South Wales. Until now there have not been any detections from the

few hundred stars which have been searched. The scale of the searches has been increased dramatically since 1992, when the US Congress voted NASA \$10 million per year for ten years to conduct a thorough search for extra-terrestrial life. Much of the money in this project is being spent on developing the special hardware needed to search many frequencies at once. The project has two parts. One part is a targeted search using the world's largest radio telescopes, the American-operated telescope in Arecibo, Puerto Rico and the French telescope in Nancy in France. This part of the project is searching the nearest 1000 likely stars with high sensitivity for signals in the frequency range 1000 to 3000 MHz. The other part of the project is an undirected search which is monitoring all of space with a lower sensitivity, using the smaller antennas of NASA's Deep Space Network.

E There is considerable debate over how we should react if we detect a signal from an alien civilisation. Everybody agrees that we should not reply immediately. Quite apart from the impracticality of sending a reply over such large distances at short notice, it raises a host of ethical questions that would have to be addressed by the global community before any reply could be sent. Would the human race face the culture shock if faced with a superior and much older civilisation? Luckily, there is no urgency about this. The stars being searched are hundreds of light years away, so it takes hundreds of years for their signal to reach us, and a further few hundred years for our reply to reach them. It's not important, then, if there's a delay of a few years, or decades, while the human race debates the question of whether to reply, and perhaps carefully drafts a reply.

Questions 14—17

Reading Passage 2 has five paragraphs, A-E. Choose the correct heading for paragraphs B-E from the headings below.

Write the correct number: i-vii, in boxes 14—17 on your answer sheet.

List of Headings

- i. Seeking the transmission of radio signals from planets
- ii. Appropriate responses to signals from other civilizations
- iii. Vast distances to Earth's closest neighbors
- iv. Assumptions underlying the search for extra-terrestrial intelligence
- v. Reasons for the search for extra-terrestrial intelligence
- vi. Knowledge of extra-terrestrial life forms
- vii. Likelihood of life on other planets

Example Answer

Paragraph A v

14. Paragraph B
15. Paragraph C
16. Paragraph D
17. Paragraph E

Questions 18-20

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

Write your answers in boxes 18-20 on your answer sheet.

18. What is the life expectancy of Earth?
19. What kind of signals from other intelligent civilizations are SETI scientists searching for?
20. How many stars are the world's most powerful radio telescopes searching?

Questions 21-26

Do the following statements agree with the views of the writer 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 more than once.

21. Alien civilizations may be able to help the human race to overcome serious problems.
22. SETI scientists are trying to find a life form that resembles humans in many ways.
23. The Americans and Australians have co-operated on joint research projects.
24. So far SETI scientists have picked up radio signals from several stars.
25. The NASA project attracted criticism from some members of Congress.
26. If a signal from outer space is received, it will be important to respond promptly.

SECTION 3

The History of the Tortoise

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

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

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

Walter Joyce and Jacques Gauthier, at Yale University, obtained three measurements in these particular bones of 71 species of living turtles and tortoises. They used a kind of triangular graph paper to plot the three measurements against one another. All the land tortoise species formed a

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

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

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

Questions 27-30

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

27. What had to transfer from sea to land before any animals could migrate?
28. Which TWO processes are mentioned as those in which animals had to make big changes as they moved onto land?
29. Which physical feature, possessed by their ancestors, do whales lack?
30. Which animals might ichthyosaurs have resembled?

Questions 31-33

Do the following statements agree with the information given in Reading Passage 3?

In boxes 31-33 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 more than once. |

- 31 Turtles were among the first group of animals to migrate back to the sea.
- 32 It is always difficult to determine where an animal lived when its fossilized remains are incomplete.
- 33 The habitat of ichthyosaurs can be determined by the appearance of their fossilized remains.

Questions 34-39

Complete the flow-chart below. Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage. Write your answers in boxes 34-39 on your answer sheet.

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

Step 1: 71 species of living turtles and tortoises were examined and a total of (34)were taken from the bones of their forelimbs.

Step 2: The data was recorded on a (35) (necessary for comparing the information).

Outcome: Land tortoises were represented by a dense (36) of points towards the top. Sea turtles were grouped together in the bottom part.

Step 3: The same data was collected from some living (37) species and added to the other results. Outcome: The points for these species turned out to be positioned about (38) up the triangle between the land tortoises and the sea turtles.

Step 4: Bones of *R quenstedti* and *P talampayensis* were examined in a similar way and the results added.

Outcome: The position of the points indicated that both these ancient creatures were (39).....

Question 40

Choose the correct letter A, B, C or D. Write the correct letter in box 40 on your answer sheet.

According to the writer, the most significant thing about tortoises is that

- A they are able to adapt to life in extremely dry environments.
- B their original life form was a kind of primeval bacteria,
- C they have so much in common with sea turtles.
- D they have made the transition from sea to land more than once.

Reading Mock Test 13 Answers:

1. false
2. not given
3. false
4. true
5. not given
6. true
7. not given
8. rich
9. commercial
10. mauve
11. Robert Pullar
12. France
13. malaria
14. iv
15. vii
16. i
17. ii
18. several billion years
19. radio (waves)
20. 1000 (stars)
21. true
22. true
23. not given
24. false
25. not given
26. false
27. plants

28. breathing and reproduction

29. gills

30. dolphins

31. not given

32. false

33. true

34. 3 measurements

35. (triangular) graph

36. cluster

37. amphibious

38. half way

39. dry land tortoises

40. D

READING MOCK TEST 14

SECTION 1

(Source : Cambridge Guide to IELTS)

Land of the Rising Sun

A Japan has a significantly better record in terms of average mathematical attainment than England and Wales. Large sample international comparisons of pupils' attainments since the 1960s have established that not only did Japanese pupils at age 13 have better scores of average attainment, but there was also a larger proportion of 'low' attainers in England, where, incidentally, the variation in attainment scores was much greater. The percentage of Gross National Product spent on education is reasonably similar in the two countries, so how is this higher and more consistent attainment in maths achieved?

B Lower secondary schools in Japan cover three school years, from the seventh grade (age 13) to the ninth grade (age 15). Virtually all pupils at this stage attend state schools: only 3 per cent are in the private sector. Schools are usually modern in design, set well back from the road and spacious inside. Classrooms are large and pupils sit at single desks in rows. Lessons last for a standardised 50 minutes and are always followed by a 10-minute break, which gives the pupils a chance to let off steam. Teachers begin with a formal address and mutual bowing, and then concentrate on whole-class teaching.

Classes are large – usually about 40 – and are unstreamed. Pupils stay in the same class for all lessons throughout the school and develop considerable class identity and loyalty. Pupils attend the school in their own neighbourhood, which in theory removes ranking by school. In practice in Tokyo, because of the relative concentration of schools, there is some competition to get into the 'better' school in a particular area.

C Traditional ways of teaching form the basis of the lesson and the remarkably quiet classes take their own notes of the points made and the examples demonstrated. Everyone has their own copy of the textbook supplied by the central education authority, Monbusho, as part of the concept of free compulsory education up to the age of 15. These textbooks are, on the whole, small, presumably inexpensive to produce, but well set out and logically developed. (One teacher was particularly keen to introduce colour and pictures into maths textbooks: he felt this would make them more accessible to pupils brought up in a cartoon culture.) Besides approving textbooks, Monbusho also decides the highly centralised national curriculum and how it is to be delivered.

D Lessons all follow the same pattern. At the beginning, the pupils put solutions to the homework on the board, then the teachers comment, correct or elaborate as necessary. Pupils mark their own homework: this is an important principle in Japanese schooling as it enables pupils to see where and why they made a mistake, so that these can be avoided in future. No one minds mistakes or ignorance as long as you are prepared to learn from them.

After the homework has been discussed, the teacher explains the topic of the lesson, slowly and with a lot of repetition and elaboration. Examples are demonstrated on the board; questions from the textbook are worked through first with the class, and then the class is set questions from the textbook to do individually. Only rarely are supplementary worksheets distributed in a maths class. The impression is that the logical nature of the textbooks and their comprehensive coverage of different types of examples, combined with the relative homogeneity of the class, renders work

sheets unnecessary. At this point, the teacher would circulate and make sure that all the pupils were coping well.

E It is remarkable that large, mixed-ability classes could be kept together for maths throughout all their compulsory schooling from 6 to 15. Teachers say that they give individual help at the end of a lesson or after school, setting extra work if necessary. In observed lessons, any strugglers would be assisted by the teacher or quietly seek help from their neighbour. Carefully fostered class identity makes pupils keen to help each other – anyway, it is in their interests since the class progresses together.

This scarcely seems adequate help to enable slow learners to keep up. However, the Japanese attitude towards education runs along the lines of ‘if you work hard enough, you can do almost anything’. Parents are kept closely informed of their children’s progress and will play a part in helping their children to keep up with class, sending them to ‘Juku’ (private evening tuition) if extra help is needed and encouraging them to work harder. It seems to work, at least for 95 per cent of the school population.

F So what are the major contributing factors in the success of maths teaching?

Clearly, attitudes are important. Education is valued greatly in Japanese culture; maths is recognised as an important compulsory subject throughout schooling; and the emphasis is on hard work coupled with a focus on accuracy. Other relevant points relate to the supportive attitude of a class towards slower pupils, the lack of competition within a class, and the positive emphasis on learning for oneself and improving one’s own standard. And the view of repetitively boring lessons and learning the facts by heart, which is sometimes quoted in relation to Japanese classes, may be unfair and unjustified. No poor maths lessons were observed. They were mainly good and one or two were inspirational.

Questions 1-5

Reading Passage 1 has six sections, A—F. Choose the correct heading for sections B—F from the list of headings below.

List of Headings

- i The influence of Monbusho
- ii Helping less successful students
- iii The success of compulsory education
- iv Research findings concerning achievements in maths
- v The typical format of a maths lesson
- vi Comparative expenditure on maths education
- vii Background to middle-years education in Japan
- viii The key to Japanese successes in maths education
- ix The role of homework correction

Example Answer: Section A iv

- 1 Section
- B 2 Section
- C 3 Section
- D 4 Section
- E 5 Section F

Questions 6-9

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

- 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

6 There is a wider range of achievement amongst English pupils studying maths than amongst their Japanese counterparts.

7 The percentage of Gross National Product spent on education generally reflects the level of attainment in mathematics.

8 Private schools in Japan are more modern and spacious than state-run lower secondary schools.

9 Teachers mark homework in Japanese schools.

Questions 10-13

Choose the correct letter, A, B, C or D. Write the correct letter in boxes 10-13 on your answer sheet.

10 Maths textbooks in Japanese schools are

- A cheap for pupils to buy.
- B well organised and adapted to the needs of the pupils.
- C written to be used in conjunction with TV programmes.
- D not very popular with many Japanese teachers.

11 When a new maths topic is introduced,

- A students answer questions on the board.
- B students rely entirely on the textbook.
- C it is carefully and patiently explained to the students.
- D it is usual for students to use extra worksheets.

12 How do schools deal with students who experience difficulties?

- A They are given appropriate supplementary tuition.
- B They are encouraged to copy from other pupils.
- C They are forced to explain their slow progress.
- D They are placed in a mixed-ability class.

13 Why do Japanese students tend to achieve relatively high rates of success in maths?

- A It is a compulsory subject in Japan.
- B They are used to working without help from others.
- C Much effort is made and correct answers are emphasised.
- D There is a strong emphasis on repetitive learning

SECTION 2

Biological Control of Pests

The continuous and reckless use of synthetic chemicals for the control of pests which pose a threat to agricultural crops and human health is proving to be counter-productive. Apart from engendering widespread ecological disorders, pesticides have contributed to the emergence of a new breed of chemical-resistant, highly lethal superbugs.

According to a recent study by the Food and Agriculture Organisation (FAO), more than 300 species of agricultural pests have developed resistance to a wide range of potent chemicals. Not to be left

behind are the disease-spreading pests, about 100 species of which have become immune to a variety of insecticides now in use.

One glaring disadvantage of pesticides' application is that, while destroying harmful pests, they also wipe out many useful non-targeted organisms, which keep the growth of the pest population in check. This results in what agroecologists call the 'treadmill syndrome'. Because of their tremendous breeding potential and genetic diversity, many pests are known to withstand synthetic chemicals and bear offspring with a built-in resistance to pesticides.

The havoc that the 'treadmill syndrome' can bring about is well illustrated by what happened to cotton farmers in Central America. In the early 1940s, basking in the glory of chemical- based intensive agriculture, the farmers avidly took to pesticides as a sure measure to boost crop yield. The insecticide was applied eight times a year in the mid-1940s, rising to 28 in a season in the mid-1950s, following the sudden proliferation of three new varieties of chemical- resistant pests.

By the mid-1960s, the situation took an alarming turn with the outbreak of four more new pests, necessitating pesticide spraying to such an extent that 50% of the financial outlay on cotton production was accounted for by pesticides. In the early 1970s, the spraying frequently reached 70 times a season as the farmers were pushed to the wall by the invasion of genetically stronger insect species.

Most of the pesticides in the market today remain inadequately tested for properties that cause cancer and mutations as well as for other adverse effects on health, says a study by United States environmental agencies. The United States National Resource Defense Council has found that DDT was the most popular of a long list of dangerous chemicals in use.

In the face of the escalating perils from indiscriminate applications of pesticides, a more effective and ecologically sound strategy of biological control, involving the selective use of natural enemies of the pest population, is fast gaining popularity – though, as yet, it is a new field with limited potential. The advantage of biological control in contrast to other methods is that it provides a relatively low-cost, perpetual control system with a minimum of detrimental side-effects. When handled by experts, bio-control is safe, non-polluting and self-dispersing.

The Commonwealth Institute of Biological Control (CIBC) in Bangalore, with its global network of research laboratories and field stations, is one of the most active, non-commercial research agencies engaged in pest control by setting natural predators against parasites. CIBC also serves as a clearing-house for the export and import of biological agents for pest control world-wide.

CIBC successfully used a seed-feeding weevil, native to Mexico, to control the obnoxious parthenium weed, known to exert devious influence on agriculture and human health in both India and Australia. Similarly the Hyderabad-based Regional Research Laboratory (RRL), supported by CIBC, is now trying out an Argentinian weevil for the eradication of water hyacinth, another dangerous weed, which has become a nuisance in many parts of the world. According to Mrs Kaiser Jamil of RRL, 'The Argentinian weevil does not attack any other plant and a pair of adult bugs could destroy the weed in 4-5 days.' CIBC is also perfecting the technique for breeding parasites that prey on 'disapene scale' insects – notorious defoliant of fruit trees in the US and India.

How effectively biological control can be pressed into service is proved by the following examples. In the late 1960s, when Sri Lanka's flourishing coconut groves were plagued by leaf-mining hispid, a larval parasite imported from Singapore brought the pest under control. A natural predator indigenous to India, *Neodumetia sangawani*, was found useful in controlling the Rhodes grass-scale

insect that was devouring forage grass in many parts of the US. By using *Neochetina bruci*, a beetle native to Brazil, scientists at Kerala Agricultural University freed a 12-kilometre-long canal from the clutches of the weed *Salvinia molesta*, popularly called 'African Payal' in Kerala. About 30,000 hectares of rice fields in Kerala are infested by this weed.

Questions 14-17

Choose the correct letter, A, B, C, or D. Write the correct letter in boxes 14-17 on your answer sheet.

14 The use of pesticides has contributed to

- A a change in the way ecologies are classified by agroecologists.
- B an imbalance in many ecologies around the world.
- C the prevention of ecological disasters in some parts of the world.
- D an increase in the range of ecologies which can be usefully farmed.

15 The Food and Agriculture Organisation has counted more than 300 agricultural pests which

- A are no longer responding to most pesticides in use
- B can be easily controlled through the use of pesticides.
- C continue to spread disease in a wide range of crops.
- D may be used as part of bio-control's replacement of pesticides.

16 Cotton farmers in Central America began to use pesticides

- A because of an intensive government advertising campaign.
- B in response to the appearance of new varieties of pest.
- C as a result of changes in the seasons and the climate.
- D to ensure more cotton was harvested from each crop.

17 By the mid-1960s, cotton farmers in Central America found that pesticides

- A were wiping out 50% of the pests plaguing the crops.
- B were destroying 50% of the crops they were meant to protect.
- C were causing a 50% increase in the number of new pests reported.
- D were costing 50% of the total amount they spent on their crops.

Questions 18-21

Do the following statements agree with the claims of the writer in Reading Passage 2?

In boxes 18-21 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

18 Disease-spreading pests respond more quickly to pesticides than agricultural pests do.

19 A number of pests are now born with an innate immunity to some pesticides.

20 Biological control entails using synthetic chemicals to try and change the genetic make-up of the pests' offspring.

21 Bio-control is free from danger under certain circumstances.

Questions 22-26

Complete each sentence with the correct ending, A—I, below.

22 Disapene scale insects feed on

23 *Neodumetia sangawani* ate

24 Leaf-mining hispides blighted

25 An Argentinian weevil may be successful in wiping out

26 *Salvinia molesta* plagues

A forage grass

B rice fields

C coconut tress

D fruit trees

E water hyacinth

F parthenium weed

G Brazilian beetles

H grass-scale insects

I larval parasites

SECTION 3

Collecting Ant Specimens

Collecting ants can be as simple as picking up stray ones and placing them in a glass jar, or as complicated as completing an exhaustive survey of all species present in an area and estimating their relative abundances. The exact method used will depend on the final purpose of the collections. For taxonomy, or classification, long series, from a single nest, which contain all castes (workers, including majors and minors, and, if present, queens and males) are desirable, to allow the determination of variation within species. For ecological studies, the most important factor is collecting identifiable samples of as many of the different species present as possible. Unfortunately, these methods are not always compatible. The taxonomist sometimes overlooks whole species in favour of those groups currently under study, while the ecologist often collects only a limited number of specimens of each species, thus reducing their value for taxonomic investigations.

To collect as wide a range of species as possible, several methods must be used. These include hand collecting, using baits to attract the ants, ground litter sampling, and the use of pitfall traps. Hand collecting consists of searching for ants everywhere they are likely to occur. This includes on the ground, under rocks, logs or other objects on the ground, in rotten wood on the ground or on trees, in vegetation, on tree trunks and under bark. When possible, collections should be made from nests or foraging columns and at least 20 to 25 individuals collected. This will ensure that all individuals are of the same species, and so increase their value for detailed studies. Since some species are largely nocturnal, collecting should not be confined to daytime. Specimens are collected using an aspirator (often called a pooter), forceps, a fine, moistened paint brush, or fingers, if the ants are known not to sting. Individual insects are placed in plastic or glass tubes (1.5-3-0 ml capacity for small ants, 5-8 ml for larger ants) containing 75% to 95% ethanol. Plastic tubes with secure tops are better than glass because they are lighter, and do not break as easily if mishandled.

Baits can be used to attract and concentrate foragers. This often increases the number of individuals collected and attracts species that are otherwise elusive. Sugars and meats or oils will attract different species and a range should be utilised. These baits can be placed either on the ground or on the trunks of trees or large shrubs. When placed on the ground, baits should be situated on small paper cards or other flat, light-coloured surfaces, or in test-tubes or vials. This makes it easier to spot ants and to capture them before they can escape into the surrounding leaf litter.

Many ants are small and forage primarily in the layer of leaves and other debris on the ground. Collecting these species by hand can be difficult. One of the most successful ways to collect them is to gather the leaf litter in which they are foraging and extract the ants from it. This is most commonly done by placing leaf litter on a screen over a large funnel, often under some heat. As the leaf litter dries from above, ants (and other animals) move downward and eventually fall out the bottom and are collected in alcohol placed below the funnel. This method works especially well in rain forests and marshy areas. A method of improving the catch when using a funnel is to sift the leaf

litter through a coarse screen before placing it above the funnel. This will concentrate the litter and remove larger leaves and twigs. It will also allow more litter to be sampled when using a limited number of funnels.

The pitfall trap is another commonly used tool for collecting ants. A pitfall trap can be any small container placed in the ground with the top level with the surrounding surface and filled with a preservative. Ants are collected when they fall into the trap while foraging. The diameter of the traps can vary from about 18 mm to 10 cm and the number used can vary from a few to several hundred. The size of the traps used is influenced largely by personal preference (although larger sizes are generally better), while the number will be determined by the study being undertaken. The preservative used is usually ethylene glycol or propylene glycol, as alcohol will evaporate quickly and the traps will dry out. One advantage of pitfall traps is that they can be used to collect over a period of time with minimal maintenance and intervention. One disadvantage is that some species are not collected as they either avoid the traps or do not commonly encounter them while foraging.

Questions 27-30

Do the following statements agree with the information given in Reading Passage 3?

In boxes 27-30 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

27 Taxonomic research involves comparing members of one group of ants.

28 New species of ant are frequently identified by taxonomists.

29 Range is the key criterion for ecological collections.

30 A single collection of ants can generally be used for both taxonomic and ecological purposes.

Questions 31-36

Classify the following statements as referring to

A hand collecting

B using bait

C sampling ground litter

D using a pitfall trap

Write the correct letter, A, B, C or D, in boxes 31-36 on your answer sheet.

31 It is preferable to take specimens from groups of ants.

32 It is particularly effective for wet habitats.

33 It is a good method for species which are hard to find.

34 Little time and effort is required.

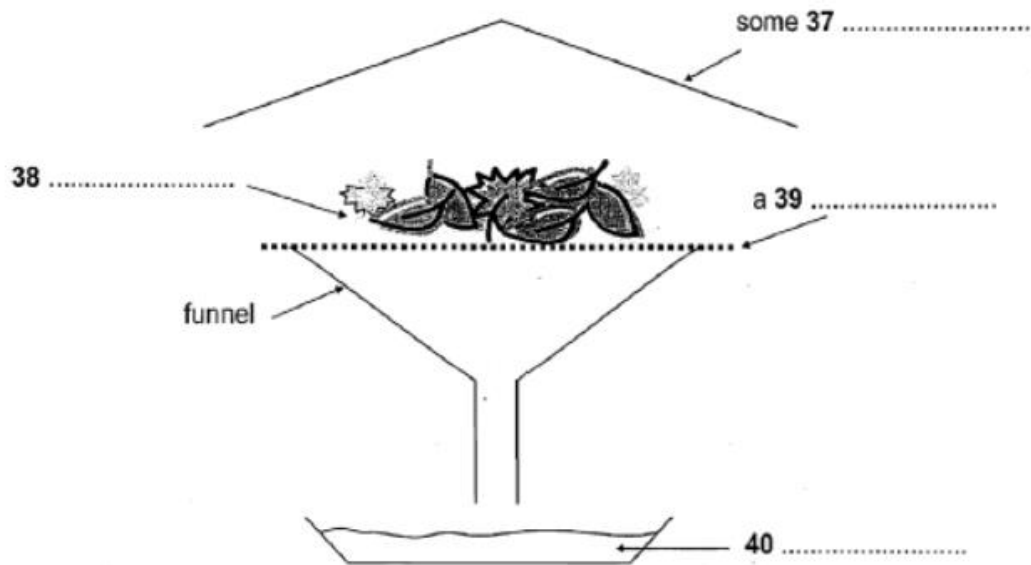
35 Separate containers are used for individual specimens.

36 Non-alcoholic preservative should be used.

Questions 37-40

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

One method of collecting ants



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Reading Mock Test 14 Answers:

1. vii
2. i
3. v
4. ii
5. viii
6. yes
7. not given
8. not given
9. no
10. B
11. C
12. A
13. C
14. B
15. A
16. D
17. D
18. not given
19. yes
20. no
21. yes
22. D
23. H
24. C
25. E
26. B
27. true

28. not given

29. true

30. false

31. A

32. C

33. B

34. D

35. A

36. D

37. heat

38. leaf litter

39. screen

40. alcohol

READING MOCK TEST 15

SECTION 1

(Source : Cambridge Guide to IELTS)

Striking Back at Lightning with Lasers

Seldom is the weather more dramatic than when thunderstorms strike. Their electrical fury inflicts death or serious injury on around 500 people each year in the United States alone. As the clouds roll in, a leisurely round of golf can become a terrifying dice with death – out in the open, a lone golfer may be a lightning bolt's most inviting target. And there is damage to property too. Lightning damage costs American power companies more than \$100 million a year.

But researchers in the United States and Japan are planning to hit back. Already in laboratory trials they have tested strategies for neutralising the power of thunderstorms, and this winter they will brave real storms, equipped with an armoury of lasers that they will be pointing towards the heavens to discharge thunderclouds before lightning can strike.

The idea of forcing storm clouds to discharge their lightning on command is not new. In the early 1960s, researchers tried firing rockets trailing wires into thunderclouds to set up an easy discharge path for the huge electric charges that these clouds generate. The technique survives to this day at a test site in Florida run by the University of Florida, with support from the Electrical Power Research Institute (EPRI), based in California. EPRI, which is funded by power companies, is looking at ways to protect the United States' power grid from lightning strikes. 'We can cause the lightning to strike where we want it to using rockets,' says Ralph Bernstein, manager of lightning projects at EPRI. The rocket site is providing precise measurements of lightning voltages and allowing engineers to check how electrical equipment bears up.

Bad behaviour

But while rockets are fine for research, they cannot provide the protection from lightning strikes that everyone is looking for. The rockets cost around \$1,200 each, can only be fired at a limited frequency and their failure rate is about 40 per cent. And even when they do trigger lightning, things still do not always go according to plan. 'Lightning is not perfectly well behaved,' says Bernstein. 'Occasionally, it will take a branch and go someplace it wasn't supposed to go.'

And anyway, who would want to fire streams of rockets in a populated area? 'What goes up must come down,' points out Jean-Claude Diels of the University of New Mexico. Diels is leading a project, which is backed by EPRI, to try to use lasers to discharge lightning safely – and safety is a basic requirement since no one wants to put themselves or their expensive equipment at risk. With around \$500,000 invested so far, a promising system is just emerging from the laboratory.

The idea began some 20 years ago, when high-powered lasers were revealing their ability to extract electrons out of atoms and create ions. If a laser could generate a line of ionisation in the air all the way up to a storm cloud, this conducting path could be used to guide lightning to Earth, before the electric field becomes strong enough to break down the air in an uncontrollable surge. To stop the laser itself being struck, it would not be pointed straight at the clouds. Instead it would be directed at a mirror, and from there into the sky. The mirror would be protected by placing lightning conductors close by. Ideally, the cloud-zapper (gun) would be cheap enough to be installed around all key power installations, and portable enough to be taken to international sporting events to beam up at brewing storm clouds.

A stumbling block

However, there is still a big stumbling block. The laser is no nifty portable: it's a monster that takes up a whole room. Diels is trying to cut down the size and says that a laser around the size of a small table is in the offing. He plans to test this more manageable system on live thunderclouds next summer.

Bernstein says that Diels's system is attracting lots of interest from the power companies. But they have not yet come up with the \$5 million that EPRI says will be needed to develop a commercial system, by making the lasers yet smaller and cheaper. 'I cannot say I have money yet, but I'm working on it,' says Bernstein. He reckons that the forthcoming field tests will be the turning point – and he's hoping for good news. Bernstein predicts 'an avalanche of interest and support' if all goes well. He expects to see cloud-zappers eventually costing \$50,000 to \$100,000 each.

Other scientists could also benefit. With a lightning 'switch' at their fingertips, materials scientists could find out what happens when mighty currents meet matter. Diels also hopes to see the birth of 'interactive meteorology' – not just forecasting the weather but controlling it. 'If we could discharge clouds, we might affect the weather,' he says.

And perhaps, says Diels, we'll be able to confront some other meteorological menaces. 'We think we could prevent hail by inducing lightning,' he says. Thunder, the shock wave that comes from a lightning flash, is thought to be the trigger for the torrential rain that is typical of storms. A laser thunder factory could shake the moisture out of clouds, perhaps preventing the formation of the giant hailstones that threaten crops. With luck, as the storm clouds gather this winter, laser-toting researchers could, for the first time, strike back.

Questions 1-3

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

1 The main topic discussed in the text is

- A the damage caused to US golf courses and golf players by lightning strikes.
- B the effect of lightning on power supplies in the US and in Japan.
- C a variety of methods used in trying to control lightning strikes.
- D a laser technique used in trying to control lightning strikes.

2 According to the text, every year lightning

- A does considerable damage to buildings during thunderstorms.
- B kills or injures mainly golfers in the United States.
- C kills or injures around 500 people throughout the world.
- D damages more than 100 American power companies.

3 Researchers at the University of Florida and at the University of New Mexico

- A receive funds from the same source
- B are using the same techniques
- C are employed by commercial companies
- D are in opposition to each other

Questions 4-6

Complete the sentences below. Write **NO MORE THAN TWO WORDS**.

4 EPRI receives financial support from.....

5 The advantage of the technique being developed by Diels is that it can be used

6 The main difficulty associated with using the laser equipment is related to its.....

Questions 7-10

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

Write the correct letter, A-I, in boxes 7-10 on your answer sheet.

In this method, a laser is used to create a line of ionisation by removing electrons from (7) This laser is then directed at (8) in order to control electrical charges, a method which is less dangerous than using (9) As a protection for the lasers, the beams are aimed firstly at (10)

A cloud-zappers

B atoms

C storm clouds

D mirrors

E technique

F ions

G rockets

H conductors

I thunder

Questions 11-13

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

In boxes 11-13 on your answer sheet write:

- 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

11 Power companies have given Diels enough money to develop his laser.

12 Obtaining money to improve the lasers will depend on tests in real storms.

13 Weather forecasters are intensely interested in Diels's system.

SECTION 2

The Nature of Genius

There has always been an interest in geniuses and prodigies. The word 'genius', from the Latin gens (= family) and the term 'genius', meaning 'begetter', comes from the early Roman cult of a divinity as the head of the family. In its earliest form, genius was concerned with the ability of the head of the family, the paterfamilias, to perpetuate himself. Gradually, genius came to represent a person's characteristics and thence an individual's highest attributes derived from his 'genius' or guiding spirit. Today, people still look to stars or genes, astrology or genetics, in the hope of finding the source of exceptional abilities or personal characteristics.

The concept of genius and of gifts has become part of our folk culture, and attitudes are ambivalent towards them. We envy the gifted and mistrust them. In the mythology of giftedness, it is popularly believed that if people are talented in one area, they must be defective in another, that intellectuals are impractical, that prodigies burn too brightly too soon and burn out, that gifted people are eccentric, that they are physical weaklings, that there's a thin line between genius and madness, that genius runs in families, that the gifted are so clever they don't need special help, that giftedness is the same as having a high IQ, that some races are more intelligent or musical or mathematical than others, that genius goes unrecognised and unrewarded, that adversity makes men wise or that people with gifts have a responsibility to use them. Language has been enriched with such terms as 'highbrow', 'egghead', 'blue-stocking', 'wiseacre', 'know-all', 'boffin' and, for many, 'intellectual' is a term of denigration.

The nineteenth century saw considerable interest in the nature of genius, and produced not a few studies of famous prodigies. Perhaps for us today, two of the most significant aspects of most of these studies of genius are the frequency with which early encouragement and teaching by parents and tutors had beneficial effects on the intellectual, artistic or musical development of the children but caused great difficulties of adjustment later in their lives, and the frequency with which abilities went unrecognised by teachers and schools. However, the difficulty with the evidence produced by these studies, fascinating as they are in collecting together anecdotes and apparent similarities and exceptions, is that they are not what we would today call norm-referenced. In other words, when, for instance, information is collated about early illnesses, methods of upbringing, schooling, etc., we must also take into account information from other historical sources about how common or exceptional these were at the time. For instance, infant mortality was high and life expectancy much shorter than today, home tutoring was common in the families of the nobility and wealthy, bullying and corporal punishment were common at the best independent schools and, for the most part, the cases studied were members of the privileged classes. It was only with the growth of paediatrics and psychology in the twentieth century that studies could be carried out on a more objective, if still not always very scientific, basis.

Geniuses, however they are defined, are but the peaks which stand out through the mist of history and are visible to the particular observer from his or her particular vantage point. Change the observers and the vantage points, clear away some of the mist, and a different lot of peaks appear. Genius is a term we apply to those whom we recognise for their outstanding achievements and who stand near the end of the continuum of human abilities which reaches back through the mundane and mediocre to the incapable. There is still much truth in Dr. Samuel Johnson's observation, 'The true genius is a mind of large general powers, accidentally determined to some particular direction'. We may disagree with the 'general', for we doubt if all musicians of genius could have become scientists of genius or vice versa, but there is no doubting the accidental determination which nurtured or triggered their gifts into those channels into which they have poured their powers so successfully. Along the continuum of abilities are hundreds of thousands of gifted men and women, boys and girls.

What we appreciate, enjoy or marvel at in the works of genius or the achievements of prodigies are the manifestations of skills or abilities which are similar to, but so much superior to, our own. But that their minds are not different from our own is demonstrated by the fact that the hard-won discoveries of scientists like Kepler or Einstein become the commonplace knowledge of schoolchildren and the once outrageous shapes and colours of an artist like Paul Klee so soon appear on the fabrics we wear. This does not minimise the supremacy of their achievements, which outstrip our own as the sub-four-minute milers outstrip our jogging.

To think of geniuses and the gifted as having uniquely different brains is only reasonable if we accept that each human brain is uniquely different. The purpose of instruction is to make us even more different from one another, and in the process of being educated we can learn from the achievements of those more gifted than ourselves. But before we try to emulate geniuses or encourage our children to do so we should note that some of the things we learn from them may prove unpalatable. We may envy their achievements and fame, but we should also recognise the price they may have paid in terms of perseverance, single-mindedness, dedication, restrictions on their personal lives, the demands upon their energies and time, and how often they had to display great courage to preserve their integrity or to make their way to the top.

Genius and giftedness are relative descriptive terms of no real substance. We may, at best, give them some precision by defining them and placing them in a context but, whatever we do, we

should never delude ourselves into believing that gifted children or geniuses are different from the rest of humanity, save in the degree to which they have developed the performance of their abilities.

Questions 14-18

Choose **FIVE** letters, A—K. Write the correct letters in boxes 14-18 on your answer sheet.

NB Your answers maybe given in any order.

Below are listed some popular beliefs about genius and giftedness.

Which **FIVE** of these beliefs are reported by the writer of the text?

- A Truly gifted people are talented in all areas.
- B The talents of geniuses are soon exhausted.
- C Gifted people should use their gifts.
- D A genius appears once in every generation.
- E Genius can be easily destroyed by discouragement.
- F Genius is inherited.
- G Gifted people are very hard to live with.
- H People never appreciate true genius.
- I Geniuses are natural leaders.
- J Gifted people develop their greatness through difficulties.
- K Genius will always reveal itself.

Questions 19-26

Do the following statements agree with the information given in Reading Passage 2? In boxes 19-26 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 |

- 19 Nineteenth-century studies of the nature of genius failed to take into account the uniqueness of the person's upbringing.
- 20 Nineteenth-century studies of genius lacked both objectivity and a proper scientific approach.
- 21 A true genius has general powers capable of excellence in any area
- 22 The skills of ordinary individuals are in essence the same as the skills of prodigies.
- 23 The ease with which truly great ideas are accepted and taken for granted fails to lessen their significance.
- 24 Giftedness and genius deserve proper scientific research into their true nature so that all talent may be retained for the human race.
- 25 Geniuses often pay a high price to achieve greatness.
- 26 To be a genius is worth the high personal cost.

SECTION 3

How Does the Biological Clock Tick?

A Our life span is restricted. Everyone accepts this as 'biologically' obvious. 'Nothing lives forever!' However, in this statement we think of artificially produced, technical objects, products which are subjected to natural wear and tear during use. This leads to the result that at some time or other the

object stops working and is unusable ('death' in the biological sense). But are the wear and tear and loss of function of technical objects and the death of living organisms really similar or comparable?

B Our 'dead' products are 'static', closed systems. It is always the basic material which constitutes the object and which, in the natural course of things, is worn down and becomes 'older'. Ageing in this case must occur according to the laws of physical chemistry and of thermodynamics. Although the same law holds for a living organism, the result of this law is not inexorable in the same way. At least as long as a biological system has the ability to renew itself it could actually become older without ageing; an organism is an open, dynamic system through which new material continuously flows. Destruction of old material and formation of new material are thus in permanent dynamic equilibrium. The material of which the organism is formed changes continuously. Thus our bodies continuously exchange old substance for new, just like a spring which more or less maintains its form and movement, but in which the water molecules are always different.

C Thus ageing and death should not be seen as inevitable, particularly as the organism possesses many mechanisms for repair. It is not, in principle, necessary for a biological system to age and die. Nevertheless, a restricted life span, ageing, and then death are basic characteristics of life. The reason for this is easy to recognise: in nature, the existent organisms either adapt or are regularly replaced by new types. Because of changes in the genetic material (mutations) these have new characteristics and in the course of their individual lives they are tested for optimal or better adaptation to the environmental conditions. Immortality would disturb this system – it needs room for new and better life. This is the basic problem of evolution.

D Every organism has a life span which is highly characteristic. There are striking differences in life span between different species, but within one species the parameter is relatively constant. For example, the average duration of human life has hardly changed in thousands of years. Although more and more people attain an advanced age as a result of developments in medical care and better nutrition, the characteristic upper limit for most remains 80 years. A further argument against the simple wear and tear theory is the observation that the time within which organisms age lies between a few days (even a few hours for unicellular organisms) and several thousand years, as with mammoth trees.

E If a life span is a genetically determined biological characteristic, it is logically necessary to propose the existence of an internal clock, which in some way measures and controls the ageing process and which finally determines death as the last step in a fixed programme. Like the life span, the metabolic rate has for different organisms a fixed mathematical relationship to the body mass. In comparison to the life span this relationship is 'inverted': the larger the organism the lower its metabolic rate. Again this relationship is valid not only for birds, but also, similarly on average within the systematic unit, for all other organisms (plants, animals, unicellular organisms).

F Animals which behave 'frugally' with energy become particularly old, for example, crocodiles and tortoises. Parrots and birds of prey are often held chained up. Thus they are not able to 'experience life' and so they attain a high life span in captivity. Animals which save energy by hibernation or lethargy (e.g. bats or hedgehogs) live much longer than those which are always active. The metabolic rate of mice can be reduced by a very low consumption of food (hunger diet). They then may live twice as long as their well fed comrades. Women become distinctly (about 10 per cent) older than men. If you examine the metabolic rates of the two sexes you establish that the higher male metabolic rate roughly accounts for the lower male life span. That means that they live life 'energetically' – more intensively, but not for as long.

G It follows from the above that sparing use of energy reserves should tend to extend life. Extreme high performance sports may lead to optimal cardiovascular performance, but they quite certainly do not prolong life. Relaxation lowers metabolic rate, as does adequate sleep and in general an equable and balanced personality. Each of us can develop his or her own 'energy saving programme' with a little self-observation, critical self-control and, above all, logical consistency. Experience will show that to live in this way not only increases the life span but is also very healthy. This final aspect should not be forgotten.

Questions 27-32

Reading Passage 3 has seven paragraphs, A—G. Choose the correct heading for paragraphs B—G from the list of headings below. Write the correct number, i—x, in boxes 27-32 on your answer sheet.

List of Headings

- i The biological clock
- ii Why dying is beneficial
- iii The ageing process of men and women
- iv Prolonging your life
- v Limitations of life span
- vi Modes of development of different species
- vii A stable life span despite improvements
- viii Energy consumption
- ix Fundamental differences in ageing of objects and organisms
- x Repair of genetic material

Example: Paragraph A

v

- 27 Paragraph B
- 28 Paragraph C
- 29 Paragraph D
- 30 Paragraph E
- 31 Paragraph F
- 32 Paragraph G

Questions 33-36

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

- Objects age in accordance with principles of (33) and of (34)
- Through mutations, organisms can (35) better to the environment
- (36) would pose a serious problem for the theory of evolution

Questions 37-40

Do the following statements agree with the views of the writer in Reading Passage 3? In boxes 37-40 on your answer sheet, write:

- YES** if the statement agrees with the views of the writer
- NO** if the statement contradicts the views of the writer
- NOT GIVEN** if it is impossible to say what the writer thinks about this

- 37 The wear and tear theory applies to both artificial objects and biological systems.
- 38 In principle, it is possible for a biological system to become older without ageing.
- 39 Within seven years, about 90 per cent of a human body is replaced as new.
- 40 Conserving energy may help to extend a human's life.



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Reading Mock Test 15 Answers:

1. D
2. A
3. A
4. power companies
5. safely
6. size
7. B
8. C
9. G
10. D
11. no
12. yes
13. not given
14. B
15. C
16. F
17. H
18. J
19. true
20. true
21. false
22. true
23. true
24. not given
25. true
26. not given
27. ix

28. ii

29. vii

30. i

31. viii

32. iv

33. physical chemistry

34. thermodynamics

35. adapt

36. immortality

37. no

38. yes

39. not given

40. yes

READING MOCK TEST 16

SECTION 1

(Source : Cambridge Guide to IELTS)

Sheet Glass Manufacture: the Float Process

Glass, which has been made since the time of the Mesopotamians and Egyptians, is little more than a mixture of sand, soda ash and lime. When heated to about 1500 degrees Celsius (°C) this becomes a molten mass that hardens when slowly cooled. The first successful method for making clear, flat glass involved spinning. This method was very effective as the glass had not touched any surfaces between being soft and becoming hard, so it stayed perfectly unblemished, with a 'fire finish'. However, the process took a long time and was labour intensive.

Nevertheless, demand for flat glass was very high and glassmakers across the world were looking for a method of making it continuously. The first continuous ribbon process involved squeezing molten glass through two hot rollers, similar to an old mangle. This allowed glass of virtually any thickness to be made non-stop, but the rollers would leave both sides of the glass marked, and these would then need to be ground and polished. This part of the process rubbed away around 20 per cent of the glass, and the machines were very expensive.

The float process for making flat glass was invented by Alistair Pilkington. This process allows the manufacture of clear, tinted and coated glass for buildings, and clear and tinted glass for vehicles. Pilkington had been experimenting with improving the melting process, and in 1952 he had the idea of using a bed of molten metal to form the flat glass, eliminating altogether the need for rollers within the float bath. The metal had to melt at a temperature less than the hardening point of glass (about 600°C), but could not boil at a temperature below the temperature of the molten glass (about 1500°C). The best metal for the job was tin.

The rest of the concept relied on gravity, which guaranteed that the surface of the molten metal was perfectly flat and horizontal. Consequently, when pouring molten glass onto the molten tin, the underside of the glass would also be perfectly flat. If the glass were kept hot enough, it would flow over the molten tin until the top surface was also flat, horizontal and perfectly parallel to the bottom surface. Once the glass cooled to 604°C or less it was too hard to mark and could be transported out of the cooling zone by rollers. The glass settled to a thickness of six millimetres because of surface tension interactions between the glass and the tin. By fortunate coincidence, 60 per cent of the flat glass market at that time was for six- millimetre glass.

Pilkington built a pilot plant in 1953 and by 1955 he had convinced his company to build a full-scale plant. However, it took 14 months of non-stop production, costing the company £100,000 a month, before the plant produced any usable glass. Furthermore, once they succeeded in making marketable flat glass, the machine was turned off for a service to prepare it for years of continuous production. When it started up again it took another four months to get the process right again. They finally succeeded in 1959 and there are now float plants all over the world, with each able to produce around 1000 tons of glass every day, non-stop for around 15 years.

Float plants today make glass of near optical quality. Several processes – melting, refining, homogenising – take place simultaneously in the 2000 tonnes of molten glass in the furnace. They occur in separate zones in a complex glass flow driven by high temperatures. It adds up to a continuous melting process, lasting as long as 50 hours, that delivers glass smoothly and

continuously to the float bath, and from there to a coating zone and finally a heat treatment zone, where stresses formed during cooling are relieved.

The principle of float glass is unchanged since the 1950s. However, the product has changed dramatically, from a single thickness of 6.8 mm to a range from sub-millimetre to 25 mm, from a ribbon frequently marred by inclusions and bubbles to almost optical perfection. To ensure the highest quality, inspection takes place at every stage. Occasionally, a bubble is not removed during refining, a sand grain refuses to melt, a tremor in the tin puts ripples into the glass ribbon. Automated on-line inspection does two things. Firstly, it reveals process faults upstream that can be corrected. Inspection technology allows more than 100 million measurements a second to be made across the ribbon, locating flaws the unaided eye would be unable to see. Secondly, it enables computers downstream to steer cutters around flaws.

Float glass is sold by the square metre, and at the final stage computers translate customer requirements into patterns of cuts designed to minimise waste.

Questions 1-8

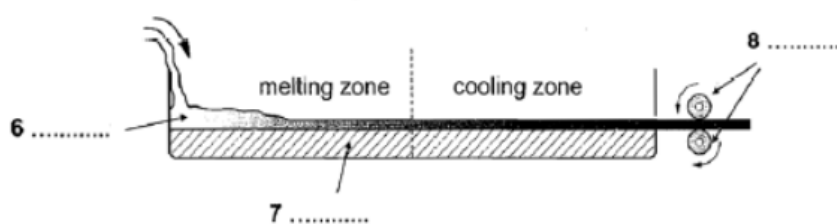
Complete the table and diagram below. Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

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

Early methods of producing flat glass

Method	Advantages	Disadvantages
(1).....	<ul style="list-style-type: none"> Glass remained (2)..... 	<ul style="list-style-type: none"> Slow (3).....
Ribbon	<ul style="list-style-type: none"> Could produce glass sheets of varying (4)..... Non-stop process 	<ul style="list-style-type: none"> Glass was (5)..... 20% of glass rubbed away

Pilkington's float process



Questions 9-13

Do the following statements agree with the information given in Reading Passage 1? In boxes 9-13 on your answer sheet, write:

- TRUE** if the statement agrees with the information
- FALSE** if the statement contradicts the information
- NOT GIVEN** if there is no information on this

- 9 The metal used in the float process had to have specific properties.
- 10 Pilkington invested some of his own money in his float plant.
- 11 Pilkington's first full-scale plant was an instant commercial success.
- 12 The process invented by Pilkington has now been improved.
- 13 Computers are better than humans at detecting faults in glass.

SECTION 2

The Little Ice Age

A This book will provide a detailed examination of the Little Ice Age and other climatic shifts, but, before I embark on that, let me provide a historical context. We tend to think of climate – as opposed to weather – as something unchanging, yet humanity has been at the mercy of climate change for its entire existence, with at least eight glacial episodes in the past 730,000 years. Our ancestors adapted to the universal but irregular global warming since the end of the last great Ice Age, around 10,000 years ago, with dazzling opportunism. They developed strategies for surviving harsh drought cycles, decades of heavy rainfall or unaccustomed cold; adopted agriculture and stock-raising, which revolutionised human life; and founded the world's first pre-industrial civilisations in Egypt, Mesopotamia and the Americas. But the price of sudden climate change, in famine, disease and suffering, was often high.

B The Little Ice Age lasted from roughly 1300 until the middle of the nineteenth century. Only two centuries ago, Europe experienced a cycle of bitterly cold winters; mountain glaciers in the Swiss Alps were the lowest in recorded memory, and pack ice surrounded Iceland for much of the year. The climatic events of the Little Ice Age did more than help shape the modern world. They are the deeply important context for the current unprecedented global warming. The Little Ice Age was far from a deep freeze, however; rather an irregular seesaw of rapid climatic shifts, few lasting more than a quarter-century, driven by complex and still little understood interactions between the atmosphere and the ocean. The seesaw brought cycles of intensely cold winters and easterly winds, then switched abruptly to years of heavy spring and early summer rains, mild winters, and frequent Atlantic storms, or to periods of droughts, light northeasterly winds, and summer heat waves.

C Reconstructing the climate changes of the past is extremely difficult, because systematic weather observations began only a few centuries ago, in Europe and North America. Records from India and tropical Africa are even more recent.

For the time before records began, we have only 'proxy records' reconstructed largely from tree rings and ice cores, supplemented by a few incomplete written accounts. We now have hundreds of tree-ring records from throughout the northern hemisphere, and many from south of the equator, too, amplified with a growing body of temperature data from ice cores drilled in Antarctica, Greenland, the Peruvian Andes, and other locations. We are close to a knowledge of annual summer and winter temperature variations over much of the northern hemisphere going back 600 years.

D This book is a narrative history of climatic shifts during the past ten centuries, and some of the ways in which people in Europe adapted to them. Part One describes the Medieval Warm Period, roughly 900 to 1200. During these three centuries, Norse voyagers from Northern Europe explored northern seas, settled Greenland, and visited North America. It was not a time of uniform warmth, for then, as always since the Great Ice Age, there were constant shifts in rainfall and temperature. Mean European temperatures were about the same as today, perhaps slightly cooler.

E It is known that the Little Ice Age cooling began in Greenland and the Arctic in about 1200. As the Arctic ice pack spread southward, Norse voyages to the west were rerouted into the open Atlantic, then ended altogether. Storminess increased in the North Atlantic and North Sea. Colder, much wetter weather descended on Europe between 1315 and 1319, when thousands perished in a continent-wide famine. By 1400, the weather had become decidedly more unpredictable and stormier, with sudden shifts and lower temperatures that culminated in the cold decades of the late sixteenth century. Fish were a vital commodity in growing towns and cities, where food supplies

were a constant concern. Dried cod and herring were already the staples of the European fish trade, but changes in water temperatures forced fishing fleets to work further offshore. The Basques, Dutch, and English developed the first offshore fishing boats adapted to a colder and stormier Atlantic. A gradual agricultural revolution in northern Europe stemmed from concerns over food supplies at a time of rising populations. The revolution involved intensive commercial farming and the growing of animal fodder on land not previously used for crops. The increased productivity from farmland made some countries self-sufficient in grain and livestock and offered effective protection against famine.

F Global temperatures began to rise slowly after 1850, with the beginning of the Modern Warm Period. There was a vast migration from Europe by land-hungry farmers and others, to which the famine caused by the Irish potato blight contributed, to North America, Australia, New Zealand, and southern Africa. Millions of hectares of forest and woodland fell before the newcomers' axes between 1850 and 1890, as intensive European farming methods expanded across the world. The unprecedented land clearance released vast quantities of carbon dioxide into the atmosphere, triggering for the first time humanly caused global warming. Temperatures climbed more rapidly in the twentieth century as the use of fossil fuels proliferated and greenhouse gas levels continued to soar. The rise has been even steeper since the early 1980s. The Little Ice Age has given way to a new climatic regime, marked by prolonged and steady warming. At the same time, extreme weather events like Category 5 hurricanes are becoming more frequent.

Questions 14-17

Reading Passage 2 has six paragraphs, A—F. Choose the correct heading for paragraphs B and D—F from the list of headings below. Write the correct number, i—ix, in boxes 14-17 on your answer sheet.

List of Headings

- i Predicting climatic changes
- ii The relevance of the Little Ice Age today
- iii How cities contribute to climate change
- iv Human impact on the climate
- v How past climatic conditions can be determined
- vi A growing need for weather records
- vii A study covering a thousand years
- viii People have always responded to climate change
- ix Enough food at last

Example Answer	Paragraph A	viii
14. Paragraph B		
Example Answer	Paragraph C	v
15 Paragraph D		
16 Paragraph E		
17 Paragraph F		

Questions 18-22

Complete the summary using the list of words, A—I, below. Write the correct letter, A—I, in boxes 18-22 on your answer sheet.

Weather during the Little Ice Age

Documentation of past weather condition is limited: our main sources of knowledge of conditions in the distant past are (18)..... and (19)..... . We can deduce that the Little Ice Age was a time of (20)..... , rather than of consistent freezing. Within it there were some periods of very cold winters, others of (21)..... and heavy rain, and yet others that saw (22)..... with no rain at all.

A climatic shifts	B ice cores	C tree rings
D glaciers	E interactions	F weather observations
G heat waves	H storms	I written accounts

Questions 23-26

Classify the following events as occurring during the

- A** Medieval Warm Period
- B** Little Ice Age
- C** Modern Warm Period

Write the correct letter, A, B or C, in boxes 23-26 on your answer sheet.

- 23 Many Europeans started farming abroad.
- 24 The cutting down of trees began to affect the climate.
- 25 Europeans discovered other lands.
- 26 Changes took place in fishing patterns.

SECTION 3

The meaning and power of smell

A A survey conducted by Anthony Synott at Montreal's Concordia University asked participants to comment on how important smell was to them in their lives. It became apparent that smell can evoke strong emotional responses. A scent associated with a good experience can bring a rush of joy, while a foul odour or one associated with a bad memory may make us grimace with disgust. Respondents to the survey noted that many of their olfactory likes and dislikes were based on emotional associations. Such associations can be powerful enough so that odours that we would generally label unpleasant become agreeable, and those that we would generally consider fragrant become disagreeable for particular individuals. The perception of smell, therefore, consists not only of the sensation of the odours themselves, but of the experiences and emotions associated with them.

B Odours are also essential cues in social bonding. One respondent to the survey believed that there is no true emotional bonding without touching and smelling a loved one. In fact, infants recognise the odours of their mothers soon after birth and adults can often identify their children or spouses by scent. In one well-known test, women and men were able to distinguish by smell alone clothing worn by their marriage partners from similar clothing worn by other people. Most of the subjects

would probably never have given much thought to odour as a cue for identifying family members before being involved in the test, but as the experiment revealed, even when not consciously considered, smells register.

C In spite of its importance to our emotional and sensory lives, smell is probably the most undervalued sense in many cultures. The reason often given for the low regard in which smell is held is that, in comparison with its importance among animals, the human sense of smell is feeble and undeveloped. While it is true that the olfactory powers of humans are nothing like as fine as those possessed by certain animals, they are still remarkably acute. Our noses are able to recognise thousands of smells, and to perceive odours which are present only in extremely small quantities.

D Smell, however, is a highly elusive phenomenon. Odours, unlike colours, for instance, cannot be named in many languages because the specific vocabulary simply doesn't exist. 'It smells like . . .,' we have to say when describing an odour, struggling to express our olfactory experience. Nor can odours be recorded: there is no effective way to either capture or store them over time. In the realm of olfaction, we must make do with descriptions and recollections. This has implications for olfactory research.

E Most of the research on smell undertaken to date has been of a physical scientific nature. Significant advances have been made in the understanding of the biological and chemical nature of olfaction, but many fundamental questions have yet to be answered. Researchers have still to decide whether smell is one sense or two – one responding to odours proper and the other registering odourless chemicals in the air. Other unanswered questions are whether the nose is the only part of the body affected by odours, and how smells can be measured objectively given the nonphysical components. Questions like these mean that interest in the psychology of smell is inevitably set to play an increasingly important role for researchers.

F However, smell is not simply a biological and psychological phenomenon. Smell is cultural, hence it is a social and historical phenomenon. Odours are invested with cultural values: smells that are considered to be offensive in some cultures may be perfectly acceptable in others. Therefore, our sense of smell is a means of, and model for, interacting with the world. Different smells can provide us with intimate and emotionally charged experiences and the value that we attach to these experiences is interiorised by the members of society in a deeply personal way. Importantly, our commonly held feelings about smells can help distinguish us from other cultures. The study of the cultural history of smell is, therefore, in a very real sense, an investigation into the essence of human culture.

Questions 27-32

Reading Passage 3 has six paragraphs, A—F. Choose the correct heading for each paragraph from the list of headings below.

Write the correct number, i—viii, in boxes 27-32 on your answer sheet.

List of Headings

- i The difficulties of talking about smells
- ii The role of smell in personal relationships
- iii Future studies into smell
- iv The relationship between the brain and the nose
- v The interpretation of smells as a factor in defining groups
- vi Why our sense of smell is not appreciated

- vii Smell is our superior sense
- viii The relationship between smell and feelings

- 27 Paragraph A
- 28 Paragraph B
- 29 Paragraph C
- 30 Paragraph D
- 31 Paragraph E
- 32 Paragraph F

Questions 33-36

Choose the correct letter, A, B, C or D. Write the correct letter in boxes 33-36 on your answer sheet.

33 According to the introduction, we become aware of the importance of smell when

- A we discover a new smell
- B we experience a powerful smell
- C our ability to smell is damaged
- D we are surrounded by odours

34 The experiment described in paragraph B

- A shows how we make use of smell without realising it
- B demonstrates that family members have a similar smell
- C proves that a sense of smell is learnt
- D compares the sense of smell in males and females

35 What is the writer doing in paragraph C?

- A supporting other research
- B making a proposal
- C rejecting a common belief
- D describing limitations

36 What does the writer suggest about the study of smell in the atmosphere in paragraph E?

- A The measurement of smell is becoming more accurate
- B Researchers believe smell is a purely physical reaction
- C Most smells are inoffensive
- D Smell is yet to be defined

Questions 37-40

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

37 Tests have shown that odours can help people recognise the.....belonging to their husbands and wives.

38 Certain linguistic groups may have difficulty describing smell because they lack the appropriate.....

39 The sense of smell may involve response to.....which do not smell, in addition to obvious odours.

40 Odours regarded as unpleasant in certain.....are not regarded as unpleasant in others.

Reading Mock Test 16 Answers:

1. spinning
2. (perfectly) unblemished
3. labour intensive
4. thickness
5. marked
6. (molten) glass
7. (molten) tin/ metal
8. rolles
9. true
10. not given
11. false
12. true
13. true
14. ii
15. vii
16. ix
17. iv
18. C
19. B
20. A
21. H
22. G
23. C
24. C
25. A
26. B
27. viii

28. ii

29. vi

30. i

31. iii

32. v

33. C

34. A

35. C

36. D

37. clothing

38. vocabulary

39. chemicals

40. cultures

READING MOCK TEST 17

SECTION 1

(Source : Cambridge Guide to IELTS)

A Chronicle of Timekeeping

A According to archaeological evidence, at least 5,000 years ago, and long before the advent of the Roman Empire, the Babylonians began to measure time, introducing calendars to co-ordinate communal activities, to plan the shipment of goods and, in particular, to regulate planting and harvesting. They based their calendars on three natural cycles: the solar day, marked by the successive periods of light and darkness as the earth rotates on its axis; the lunar month, following the phases of the moon as it orbits the earth; and the solar year, defined by the changing seasons that accompany our planet's revolution around the sun.

B Before the invention of artificial light, the moon had greater social impact. And, for those living near the equator in particular, its waxing and waning was more conspicuous than the passing of the seasons. Hence, the calendars that were developed at the lower latitudes were influenced more by the lunar cycle than by the solar year. In more northern climes, however, where seasonal agriculture was practised, the solar year became more crucial. As the Roman Empire expanded northward, it organised its activity chart for the most part around the solar year.

C Centuries before the Roman Empire, the Egyptians had formulated a municipal calendar having 12 months of 30 days, with five days added to approximate the solar year. Each period of ten days was marked by the appearance of special groups of stars called decans. At the rise of the star Sirius just before sunrise, which occurred around the all-important annual flooding of the Nile, 12 decans could be seen spanning the heavens. The cosmic significance the Egyptians placed in the 12 decans led them to develop a system in which each interval of darkness (and later, each interval of daylight) was divided into a dozen equal parts. These periods became known as temporal hours because their duration varied according to the changing length of days and nights with the passing of the seasons. Summer hours were long, winter ones short; only at the spring and autumn equinoxes were the hours of daylight and darkness equal. Temporal hours, which were first adopted by the Greeks and then the Romans, who disseminated them through Europe, remained in use for more than 2,500 years.

D In order to track temporal hours during the day, inventors created sundials, which indicate time by the length or direction of the sun's shadow. The sundial's counterpart, the water clock, was designed to measure temporal hours at night. One of the first water clocks was a basin with a small hole near the bottom through which the water dripped out. The falling water level denoted the passing hour as it dipped below hour lines inscribed on the inner surface. Although these devices performed satisfactorily around the Mediterranean, they could not always be depended on in the cloudy and often freezing weather of northern Europe.

E The advent of the mechanical clock meant that although it could be adjusted to maintain temporal hours, it was naturally suited to keeping equal ones. With these, however, arose the question of when to begin counting, and so, in the early 14th century, a number of systems evolved. The schemes that divided the day into 24 equal parts varied according to the start of the count: Italian hours began at sunset, Babylonian hours at sunrise, astronomical hours at midday and 'great clock' hours, used for some large public clocks in Germany, at midnight. Eventually these were superseded by 'small clock', or French, hours, which split the day into two 12-hour periods commencing at midnight.

F The earliest recorded weight-driven mechanical clock was built in 1283 in Bedfordshire in England. The revolutionary aspect of this new timekeeper was neither the descending weight that provided its motive force nor the gear wheels (which had been around for at least 1,300 years) that transferred the power; it was the part called the escapement. In the early 1400s came the invention of the coiled spring or fusee which maintained constant force to the gear wheels of the timekeeper despite the changing tension of its mainspring. By the 16th century, a pendulum clock had been devised, but the pendulum swung in a large arc and thus was not very efficient.

G To address this, a variation on the original escapement was invented in 1670, in England. It was called the anchor escapement, which was a lever-based device shaped like a ship's anchor. The motion of a pendulum rocks this device so that it catches and then releases each tooth of the escape wheel, in turn allowing it to turn a precise amount. Unlike the original form used in early pendulum clocks, the anchor escapement permitted the pendulum to travel in a very small arc. Moreover, this invention allowed the use of a long pendulum which could beat once a second and thus led to the development of a new floor standing case design, which became known as the grandfather clock.

H Today, highly accurate timekeeping instruments set the beat for most electronic devices. Nearly all computers contain a quartz-crystal clock to regulate their operation. Moreover, not only do time signals beamed down from Global Positioning System satellites calibrate the functions of precision navigation equipment, they do so as well for mobile phones, instant stock-trading systems and nationwide power-distribution grids. So integral have these time-based technologies become to day-to-day existence that our dependency on them is recognised only when they fail to work.

Questions 1-4

Reading Passage 1 has eight paragraphs, A-H. Which paragraph contains the following information? Write the correct letter, A-H, in boxes 1- 4 on your answer sheet.

- 1 a description of an early timekeeping invention affected by cold temperatures
- 2 an explanation of the importance of geography in the development of the calendar in farming communities
- 3 a description of the origins of the pendulum clock
- 4 details of the simultaneous efforts of different societies to calculate time using uniform hours

Questions 5-8

Look at the following events (Questions 5-8) and the list of nationalities below. Match each event with the correct nationality, A-F. Write the correct letter, A-F, in boxes 5-8 on your answer sheet.

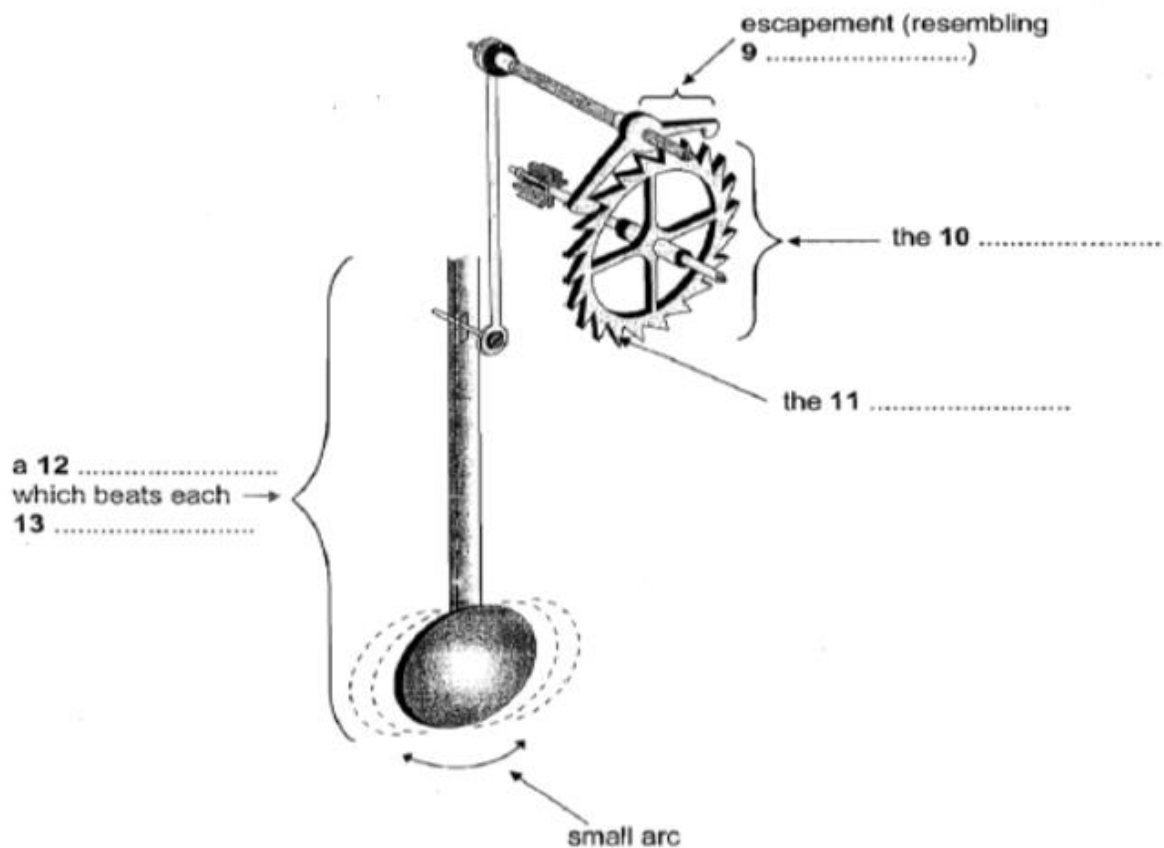
- 5 They devised a civil calendar in which the months were equal in length.
- 6 They divided the day into two equal halves.
- 7 They developed a new cabinet shape for a type of timekeeper.
- 8 They created a calendar to organise public events and work schedules.

- A** Babylonians
- B** Egyptians
- C** Greeks
- D** English
- E** Germans
- F** French

Questions 9-13

Label the diagram below. Write **NO MORE THAN TWO WORDS** from the passage.

How the 1670 lever-based device worked



SECTION 2

AIR TRAFFIC CONTROL IN THE USA

A An accident that occurred in the skies over the Grand Canyon in 1956 resulted in the establishment of the Federal Aviation Administration (FAA) to regulate and oversee the operation of aircraft in the skies over the United States, which were becoming quite congested. The resulting structure of air traffic control has greatly increased the safety of flight in the United States, and similar air traffic control procedures are also in place over much of the rest of the world.

B Rudimentary air traffic control (ATC) existed well before the Grand Canyon disaster. As early as the 1920s, the earliest air traffic controllers manually guided aircraft in the vicinity of the airports, using lights and flags, while beacons and flashing lights were placed along cross-country routes to establish the earliest airways. However, this purely visual system was useless in bad weather, and, by the 1930s, radio communication was coming into use for ATC. The first region to have something approximating today's ATC was New York City, with other major metropolitan areas following soon after.

C In the 1940s, ATC centres could and did take advantage of the newly developed radar and improved radio communication brought about by the Second World War, but the system remained rudimentary. It was only after the creation of the FAA that full-scale regulation of America's airspace took place, and this was fortuitous, for the advent of the jet engine suddenly resulted in a large

number of very fast planes, reducing pilots' margin of error and practically demanding some set of rules to keep everyone well separated and operating safely in the air.

D Many people think that ATC consists of a row of controllers sitting in front of their radar screens at the nation's airports, telling arriving and departing traffic what to do. This is a very incomplete part of the picture. The FAA realised that the airspace over the United States would at any time have many different kinds of planes, flying for many different purposes, in a variety of weather conditions, and the same kind of structure was needed to accommodate all of them.

E To meet this challenge, the following elements were put into effect. First, ATC extends over virtually the entire United States. In general, from 365m above the ground and higher, the entire country is blanketed by controlled airspace. In certain areas, mainly near airports, controlled airspace extends down to 215m above the ground, and, in the immediate vicinity of an airport, all the way down to the surface. Controlled airspace is that airspace in which FAA regulations apply. Elsewhere, in uncontrolled airspace, pilots are bound by fewer regulations. In this way, the recreational pilot who simply wishes to go flying for a while without all the restrictions imposed by the FAA has only to stay in uncontrolled airspace, below 365m, while the pilot who does want the protection afforded by ATC can easily enter the controlled airspace.

F The FAA then recognised two types of operating environments. In good meteorological conditions, flying would be permitted under Visual Flight Rules (VFR), which suggests a strong reliance on visual cues to maintain an acceptable level of safety. Poor visibility necessitated a set of Instrumental Flight Rules (IFR), under which the pilot relied on altitude and navigational information provided by the plane's instrument panel to fly safely. On a clear day, a pilot in controlled airspace can choose a VFR or IFR flight plan, and the FAA regulations were devised in a way which accommodates both VFR and IFR operations in the same airspace. However, a pilot can only choose to fly IFR if they possess an instrument rating which is above and beyond the basic pilot's license that must also be held.

G Controlled airspace is divided into several different types, designated by letters of the alphabet. Uncontrolled airspace is designated Class F, while controlled airspace below 5,490m above sea level and not in the vicinity of an airport is Class E. All airspace above 5,490m is designated Class A. The reason for the division of Class E and Class A airspace stems from the type of planes operating in them. Generally, Class E airspace is where one finds general aviation aircraft (few of which can climb above 5,490m anyway), and commercial turboprop aircraft. Above 5,490m is the realm of the heavy jets, since jet engines operate more efficiently at higher altitudes. The difference between Class E and A airspace is that in Class A, all operations are IFR, and pilots must be instrument-rated, that is, skilled and licensed in aircraft instrumentation. This is because ATC control of the entire space is essential. Three other types of airspace, Classes D, C and B, govern the vicinity of airports. These correspond roughly to small municipal, medium-sized metropolitan and major metropolitan airports respectively, and encompass an increasingly rigorous set of regulations. For example, all a VFR pilot has to do to enter Class C airspace is establish two-way radio contact with ATC. No explicit permission from ATC to enter is needed, although the pilot must continue to obey all regulations governing VFR flight. To enter Class B airspace, such as on approach to a major metropolitan airport, an explicit ATC clearance is required. The private pilot who cruises without permission into this airspace risks losing their license.

Questions 14-19

Reading passage 2 has seven paragraphs A-G. Choose the correct heading for paragraphs A and C-G from the list below. Write the correct number i-x in boxes 14-19 on your answer sheet.

List of Headings

- i Disobeying FAA Regulations
- ii Aviation disaster prompts action
- iii Two coincidental developments
- iv Setting Altitude Zones
- v An oversimplified view
- vi Controlling pilots' licence
- vii Defining airspace categories
- viii Setting rules to weather conditions
- ix Taking of Safety
- x First step towards ATC

Example – Paragraph B x

- 14 Paragraph A
- 15 Paragraph C
- 16 Paragraph D
- 17 Paragraph E
- 18 Paragraph F
- 19 Paragraph G

Questions 20-26

Do the following statements agree with the given information of the reading passage? In boxes 20-26 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

- 20 The FAA was created as a result of the introduction of the jet engine.
- 21 Air traffic control started after the Grand Canyon crash in 1956.
- 22 Beacons and flashing lights are still used by the ATC today.
- 23 Some improvements were made in radio communication during World War II.
- 24 Class F airspace is airspace which is below 365m and not near airports.
- 25 All aircraft in class E airspace must use IFR.
- 26 A pilot entering class C airspace is flying over an average-sized city.

SECTION 3

Telepathy

Since the 1970s, parapsychologists at leading universities and research institutes around the world have risked the derision of sceptical colleagues by putting the various claims for telepathy to the test in dozens of rigorous scientific studies. The results and their implications are dividing even the researchers who uncovered them.

Some researchers say the results constitute compelling evidence that telepathy is genuine. Other parapsychologists believe the field is on the brink of collapse, having tried to produce definitive

scientific proof and failed. Sceptics and advocates alike do concur on one issue, however: that the most impressive evidence so far has come from the so-called 'ganzfeld' experiments, a German term that means 'whole field'. Reports of telepathic experiences had by people during meditation led parapsychologists to suspect that telepathy might involve 'signals' passing between people that were so faint that they were usually swamped by normal brain activity. In this case, such signals might be more easily detected by those experiencing meditation-like tranquility in a relaxing 'whole field' of light, sound and warmth.

The ganzfeld experiment tries to recreate these conditions with participants sitting in soft reclining chairs in a sealed room, listening to relaxing sounds while their eyes are covered with special filters letting in only soft pink light. In early ganzfeld experiments, the telepathy test involved identification of a picture chosen from a random selection of four taken from a large image bank. The idea was that a person acting as a 'sender' would attempt to beam the image over to the 'receiver' relaxing in the sealed room. Once the session was over, this person was asked to identify which of the four images had been used. Random guessing would give a hit-rate of 25 per cent; if telepathy is real, however, the hit-rate would be higher. In 1982, the results from the first ganzfeld studies were analysed by one of its pioneers, the American parapsychologist Charles Honorton. They pointed to typical hit-rates of better than 30 per cent – a small effect, but one which statistical tests suggested could not be put down to chance.

The implication was that the ganzfeld method had revealed real evidence for telepathy. But there was a crucial flaw in this argument – one routinely overlooked in more conventional areas of science. Just because chance had been ruled out as an explanation did not prove telepathy must exist; there were many other ways of getting positive results. These ranged from 'sensory leakage' – where clues about the pictures accidentally reach the receiver – to outright fraud. In response, the researchers issued a review of all the ganzfeld studies done up to 1985 to show that 80 per cent had found statistically significant evidence. However, they also agreed that there were still too many problems in the experiments which could lead to positive results, and they drew up a list demanding new standards for future research.

After this, many researchers switched to autoganzfeld tests – an automated variant of the technique which used computers to perform many of the key tasks such as the random selection of images. By minimising human involvement, the idea was to minimise the risk of flawed results. In 1987, results from hundreds of autoganzfeld tests were studied by Honorton in a 'meta-analysis', a statistical technique for finding the overall results from a set of studies. Though less compelling than before, the outcome was still impressive.

Yet some parapsychologists remain disturbed by the lack of consistency between individual ganzfeld studies. Defenders of telepathy point out that demanding impressive evidence from every study ignores one basic statistical fact: it takes large samples to detect small effects. If, as current results suggest, telepathy produces hit-rates only marginally above the 25 per cent expected by chance, it's unlikely to be detected by a typical ganzfeld study involving around 40 people: the group is just not big enough. Only when many studies are combined in a meta-analysis will the faint signal of telepathy really become apparent. And that is what researchers do seem to be finding.

What they are certainly not finding, however, is any change in attitude of mainstream scientists: most still totally reject the very idea of telepathy. The problem stems at least in part from the lack of any plausible mechanism for telepathy.

Various theories have been put forward, many focusing on esoteric ideas from theoretical physics. They include 'quantum entanglement', in which events affecting one group of atoms instantly affect another group, no matter how far apart they may be. While physicists have demonstrated entanglement with specially prepared atoms, no-one knows if it also exists between atoms making up human minds. Answering such questions would transform parapsychology. This has prompted some researchers to argue that the future lies not in collecting more evidence for telepathy, but in probing possible mechanisms. Some work has begun already, with researchers trying to identify people who are particularly successful in autoganzfeld trials. Early results show that creative and artistic people do much better than average: in one study at the University of Edinburgh, musicians achieved a hit-rate of 56 per cent. Perhaps more tests like these will eventually give the researchers the evidence they are seeking and strengthen the case for the existence of telepathy.

Questions 27-30

Complete each sentence with the correct ending, A —G, below. Write the correct letter, A—G, in boxes 27-30 on your answer sheet.

- 27 Researchers with differing attitudes towards telepathy agree on
- 28 Reports of experiences during meditation indicated
- 29 Attitudes to parapsychology would alter drastically with
- 30 Recent autoganzfeld trials suggest that success rates will improve with

- A the discovery of a mechanism for telepathy.
- B the need to create a suitable environment for telepathy.
- C their claims of a high success rate.
- D a solution to the problem posed by random guessing.
- E the significance of the ganzfeld experiments.
- F a more careful selection of subjects.
- G a need to keep altering conditions.

Questions 31-40

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

Write your answers in boxes 31-40 on your answer sheet.

Telepathy Experiments			
Name/ Date	Description	Result	Flaw
Ganzfeld studies 1982	Involves a person acting as a (31).....who picked out one (32).....from a random selection of four and a (33).....who then tried to identify it.	Hit rates were higher than with random guessing	Positive results could be produced by factors such as (34).....or (35).....
Autoganzfeld studies 1987	(36).....were used for key tasks to limit the amount of (37).....in carrying out the tests.	The results were then subjected to a (38).....	The (39)..... Between different test results was put down to the fact that sample groups were not (40)..... (as with most ganzfeld studies).



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Reading Mock Test 17 Answers:

1. D
2. B
3. F
4. E
5. B
6. F
7. D
8. A
9. (ships's) anchor
10. (escape) wheel
11. tooth
12. (long) pendulum
13. second
14. ii
15. iii
16. v
17. iv
18. viii
19. vii
20. false
21. false
22. not given
23. true
24. true
25. false
26. true
27. E

28. B

29. A

30. F

31. sender

32. picture/ image

33. receiver

34. sensory leakage

35. fraud

36. computers

37. human involvement

38. meta-analysis

39. lack of consistency

40. big/ large enough

READING MOCK TEST 18

SECTION 1

(Source : Cambridge Guide to IELTS)

Pulling Strings to Build Pyramids

The pyramids of Egypt were built more than three thousand years ago, and no one knows how. The conventional picture is that tens of thousands of slaves dragged stones on sledges. But there is no evidence to back this up. Now a Californian software consultant called Maureen Clemmons has suggested that kites might have been involved. While perusing a book on the monuments of Egypt, she noticed a hieroglyph that showed a row of men standing in odd postures. They were holding what looked like ropes that led, via some kind of mechanical system, to a giant bird in the sky. She wondered if perhaps the bird was actually a giant kite, and the men were using it to lift a heavy object.

Intrigued, Clemmons contacted Morteza Gharib, aeronautics professor at the California Institute of Technology. He was fascinated by the idea. 'Coming from Iran, I have a keen interest in Middle Eastern science/ he says. He too was puzzled by the picture that had sparked Clemmons's interest. The object in the sky apparently had wings far too short and wide for a bird. 'The possibility certainly existed that it was a kite,' he says. And since he needed a summer project for his student Emilio Graff, investigating the possibility of using kites as heavy lifters seemed like a good idea.

Gharib and Graff set themselves the task of raising a 4.5-metre stone column from horizontal to vertical, using no source of energy except the wind. Their initial calculations and scale-model wind-tunnel experiments convinced them they wouldn't need a strong wind to lift the 33.5-tonne column. Even a modest force, if sustained over a long time, would do. The key was to use a pulley system that would magnify the applied force. So they rigged up a tent-shaped scaffold directly above the tip of the horizontal column, with pulleys suspended from the scaffold's apex. The idea was that as one end of the column rose, the base would roll across the ground on a trolley.

Earlier this year, the team put Clemmons's unlikely theory to the test, using a 40-square-metre rectangular nylon sail. The kite lifted the column clean off the ground. 'We were absolutely stunned,' Gharib says. The instant the sail opened into the wind, a huge force was generated and the column was raised to the vertical in a mere 40 seconds.'

The wind was blowing at a gentle 16 to 20 kilometres an hour, little more than half what they thought would be needed. What they had failed to reckon with was what happened when the kite was opened. There was a huge initial force – five times larger than the steady state force,' Gharib says. This jerk meant that kites could lift huge weights, Gharib realised. Even a 300-tonne column could have been lifted to the vertical with 40 or so men and four or five sails. So Clemmons was right: the pyramid builders could have used kites to lift massive stones into place. Whether they actually did is another matter,' Gharib says.

There are no pictures showing the construction of the pyramids, so there is no way to tell what really happened. The evidence for using kites to move large stones is no better or worse than the evidence for the brute force method,' Gharib says.

Indeed, the experiments have left many specialists unconvinced. The evidence for kite-lifting is non-existent,' says Willeke Wendrich, an associate professor of Egyptology at the University of California, Los Angeles. Others feel there is more of a case for the theory. Harnessing the wind would not have been a problem for accomplished sailors like the Egyptians. And they are known to have used

wooden pulleys, which could have been made strong enough to bear the weight of massive blocks of stone. In addition, there is some physical evidence that the ancient Egyptians were interested in flight. A wooden artefact found on the step pyramid at Saqqara looks uncannily like a modern glider. Although it dates from several hundred years after the building of the pyramids, its sophistication suggests that the Egyptians might have been developing ideas of flight for a long time. And other ancient civilisations certainly knew about kites; as early as 1250 BC, the Chinese were using them to deliver messages and dump flaming debris on their foes.

The experiments might even have practical uses nowadays. There are plenty of places around the globe where people have no access to heavy machinery, but do know how to deal with wind, sailing and basic mechanical principles. Gharib has already been contacted by a civil engineer in Nicaragua, who wants to put up buildings with adobe roofs supported by concrete arches on a site that heavy equipment can't reach. His idea is to build the arches horizontally, then lift them into place using kites. We've given him some design hints,' says Gharib. We're just waiting for him to report back.' So whether they were actually used to build the pyramids or not, it seems that kites may make sensible construction tools in the 21st century AD.

Questions 1-7

Do the following statement with the information given in Reading Passage 1? In boxes 1-7 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 It is generally believed that large numbers of people were needed to build the pyramids.
- 2 Clemmons found a strange hieroglyph on the wall of an Egyptian monument.
- 3 Gharib had previously done experiments on bird flight.
- 4 Gharib and Graff tested their theory before applying it.
- 5 The success of the actual experiment was due to the high speed of the wind.
- 6 They found that, as the kite flew higher, the wind force got stronger.
- 7 The team decided that it was possible to use kites to raise very heavy stones.

Questions 8-13

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

Addition evidence for theory of kite lifting

The Egyptians had (8)....., which could lift large pieces of (9)....., and they knew how to use the energy of the wind from their skill as (10)..... The discovery on one pyramid of an object which resembled a (11)..... suggests they may have experimented with (12) In addition, over two thousand years ago kites used in china as weapons, as well as for sending (13).....

SECTION 2

Endless Harvest

More than two hundred years ago, Russian explorers and fur hunters landed on the Aleutian Islands, a volcanic archipelago in the North Pacific, and learned of a land mass that lay farther to the north. The islands' native inhabitants called this land mass Aleyska, the 'Great Land'; today, we know it as Alaska.

The forty-ninth state to join the United States of America (in 1959), Alaska is fully one-fifth the size of the mainland 48 states combined. It shares, with Canada, the second longest river system in North America and has over half the coastline of the United States. The rivers feed into the Bering Sea and Gulf of Alaska – cold, nutrient-rich waters which support tens of millions of seabirds, and over 400 species of fish, shellfish, crustaceans, and molluscs. Taking advantage of this rich bounty, Alaska's commercial fisheries have developed into some of the largest in the world.

According to the Alaska Department of Fish and Game (ADF&G), Alaska's commercial fisheries landed hundreds of thousands of tonnes of shellfish and herring, and well over a million tonnes of groundfish (cod, sole, perch and pollock) in 2000. The true cultural heart and soul of Alaska's fisheries, however, is salmon. 'Salmon,' notes writer Susan Ewing in *The Great Alaska Nature Factbook*, 'pump through Alaska like blood through a heart, bringing rhythmic, circulating nourishment to land, animals and people.' The 'predictable abundance of salmon allowed some native cultures to flourish,' and 'dying spawners feed bears, eagles, other animals, and ultimately the soil itself.' All five species of Pacific salmon – chinook, or king; chum, or dog; coho, or silver; sockeye, or red; and pink, or humpback – spawn in Alaskan waters, and 90% of all Pacific salmon commercially caught in North America are produced there. Indeed, if Alaska was an independent nation, it would be the largest producer of wild salmon in the world. During 2000, commercial catches of Pacific salmon in Alaska exceeded 320,000 tonnes, with an ex-vessel value of over \$260 million.

Catches have not always been so healthy. Between 1940 and 1959, overfishing led to crashes in salmon populations so severe that in 1953 Alaska was declared a federal disaster area. With the onset of statehood, however, the State of Alaska took over management of its own fisheries, guided by a state constitution which mandates that Alaska's natural resources be managed on a sustainable basis. At that time, statewide harvests totalled around 25 million salmon. Over the next few decades average catches steadily increased as a result of this policy of sustainable management, until, during the 1990s, annual harvests were well in excess of 100 million, several occasions over 200 million fish.

The primary reason for such increases is what is known as 'In-Season Abundance-Based Management'. There are biologists throughout the state constantly monitoring adult fish as they show up to spawn. The biologists sit in streamside counting towers, study sonar, watch from aeroplanes, and talk to fishermen. The salmon season in Alaska is not pre-set. The fishermen know the approximate time of year when they will be allowed to fish, but on any given day, one or more field biologists in a particular area can put a halt to fishing. Even sport fishing can be brought to a halt. It is this management mechanism that has allowed Alaska salmon stocks — and, accordingly, Alaska salmon fisheries — to prosper, even as salmon populations in the rest of the United States are increasingly considered threatened or even endangered.

In 1999, the Marine Stewardship Council (MSC) commissioned a review of the Alaska salmon fishery. The Council, which was founded in 1996, certifies fisheries that meet high environmental standards, enabling them to use a label that recognises their environmental responsibility. The MSC has

established a set of criteria by which commercial fisheries can be judged. Recognising the potential benefits of being identified as environmentally responsible, fisheries approach the Council requesting to undergo the certification process. The MSC then appoints a certification committee, composed of a panel of fisheries experts, which gathers information and opinions from fishermen, biologists, government officials, industry representatives, non-governmental organisations and others.

Some observers thought the Alaska salmon fisheries would not have any chance of certification when, in the months leading up to MSC's final decision, salmon runs throughout western Alaska completely collapsed. In the Yukon and Kuskokwim rivers, chinook and chum runs were probably the poorest since statehood; subsistence communities throughout the region, who normally have priority over commercial fishing, were devastated.

The crisis was completely unexpected, but researchers believe it had nothing to do with impacts of fisheries. Rather, they contend, it was almost certainly the result of climatic shifts, prompted in part by cumulative effects of the el nino/la nina phenomenon on Pacific Ocean temperatures, culminating in a harsh winter in which huge numbers of salmon eggs were frozen. It could have meant the end as far as the certification process was concerned. However, the state reacted quickly, closing down all fisheries, even those necessary for subsistence purposes.

In September 2000, MSC announced that the Alaska salmon fisheries qualified for certification. Seven companies producing Alaska salmon were immediately granted permission to display the MSC logo on their products. Certification is for an initial period of five years, with an annual review to ensure that the fishery is continuing to meet the required standards.

Questions 14-20

Do the following statements agree with the information given in Reading Passage 2? In boxes 14-20 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

- 14 The inhabitants of the Aleutian islands renamed their islands Aleyska
- 15 Alaska's fisheries are owned by some of the world's largest companies.
- 16 Life in Alaska is dependent on salmon.
- 17 Ninety per cent of all Pacific salmon caught are sockeye or pink salmon.
- 18 More than 320,000 tonnes of salmon were caught in Alaska in 2000.
- 19 Between 1940 and 1959, there was a sharp decrease in Alaska's salmon population.
- 20 During the 1990s, the average number of salmon caught each year was 100 million.

Questions 21-26

Complete each sentence with the correct ending, A-K, below. Write the correct letter, A-K in boxes 21-26 on your answer sheet.

- 21 In Alaska, biologists keep a check on adult fish
- 22 Biologists have the authority
- 23 In-Season Abundance-Based Management has allowed the Alaska salmon fisheries
- 24 The Marine Stewardship Council (MSC) was established
- 25 As a result of the collapse of the salmon runs in 1999, the state decided
- 26 In September 2000, the MSC allowed seven Alaska salmon companies

- A to recognise fisheries that care for the environment.
- B to be successful.
- C to stop fish from spawning
- D to set up environmental protection laws.
- E to stop people fishing for sport.
- F to label their products using the MSC logo.
- G to ensure that fish numbers are sufficient to permit fishing.
- H to assist the subsistence communities in the region.
- I to freeze a huge number of salmon eggs.
- J to deny certification to the Alaska fisheries.
- K to close down all-fisheries.

SECTION 3

Effects of Noise

In general, it is plausible to suppose that we should prefer peace and quiet to noise. And yet most of us have had the experience of having to adjust to sleeping in the mountains or the countryside because it was initially 'too quiet', an experience that suggests that humans are capable of adapting to a wide range of noise levels. Research supports this view. For example, Glass and Singer (1972) exposed people to short bursts of very loud noise and then measured their ability to work out problems and their physiological reactions to the noise. The noise was quite disruptive at first, but after about four minutes the subjects were doing just as well on their tasks as control subjects who were not exposed to noise. Their physiological arousal also declined quickly to the same levels as those of the control subjects.

But there are limits to adaptation and loud noise becomes more troublesome if the person is required to concentrate on more than one task. For example, high noise levels interfered with the performance of subjects who were required to monitor three dials at a time, a task not unlike that of an aeroplane pilot or an air-traffic controller (Broadbent, 1957). Similarly, noise did not affect a subject's ability to track a moving line with a steering wheel, but it did interfere with the subject's ability to repeat numbers while tracking (Finkelman and Glass, 1970).

Probably the most significant finding from research on noise is that its predictability is more important than how loud it is. We are much more able to 'tune out' chronic background noise, even if it is quite loud, than to work under circumstances with unexpected intrusions of noise. In the Glass and Singer study, in which subjects were exposed to bursts of noise as they worked on a task, some subjects heard loud bursts and others heard soft bursts. For some subjects, the bursts were spaced exactly one minute apart (predictable noise); others heard the same amount of noise overall, but the bursts occurred at random intervals (unpredictable noise). Subjects reported finding the predictable and unpredictable noise equally annoying, and all subjects performed at about the same level during the noise portion of the experiment. But the different noise conditions had quite different after-effects when the subjects were required to proofread written material under conditions of no noise. As shown in Table 1 the unpredictable noise produced more errors in the later proofreading task than predictable noise; and soft, unpredictable noise actually produced slightly more errors on this task than the loud, predictable noise.

Apparently, unpredictable noise produces more fatigue than predictable noise, but it takes a while for this fatigue to take its toll on performance.

Predictability is not the only variable that reduces or eliminates the negative effects of noise. Another is control. If the individual knows that he or she can control the noise, this seems to eliminate both its negative effects at the time and its after-effects. This is true even if the individual never actually exercises his or her option to turn the noise off (Glass and Singer, 1972). Just the knowledge that one has control is sufficient.

The studies discussed so far exposed people to noise for only short periods and only transient effects were studied. But the major worry about noisy environments is that living day after day with chronic noise may produce serious, lasting effects. One study, suggesting that this worry is a realistic one, compared elementary school pupils who attended schools near Los Angeles's busiest airport with students who attended schools in quiet neighbourhoods (Cohen et al., 1980). It was found that children from the noisy schools had higher blood pressure and were more easily distracted than those who attended the quiet schools. Moreover, there was no evidence of adaptability to the noise. In fact, the longer the children had attended the noisy schools, the more distractible they became. The effects also seem to be long lasting. A follow-up study showed that children who were moved to less noisy classrooms still showed greater distractibility one year later than students who had always been in the quiet schools (Cohen et al, 1981). It should be noted that the two groups of children had been carefully matched by the investigators so that they were comparable in age, ethnicity, race, and social class.

Questions 27-29

Choose the correct letter, A, B, C or D. Write the correct letter in boxes 27-29 on your answer sheet

27 The writer suggests that people may have difficulty sleeping in the mountains because

- A humans do not prefer peace and quiet to noise.
- B they may be exposed to short bursts of very strange sounds.
- C humans prefer to hear a certain amount of noise while they sleep.
- D they may have adapted to a higher noise level in the city.

28 In noise experiments, Glass and Singer found that

- A problem-solving is much easier under quiet conditions.
- B physiological arousal prevents the ability to work.
- C bursts of noise do not seriously disrupt problem-solving in the long term.
- D the physiological arousal of control subjects declined quickly.

29 Researchers discovered that high noise levels are not likely to interfere with the

- A successful performance of a single task.
- B tasks of pilots or air traffic controllers.
- C ability to repeat numbers while tracking moving lines.
- D ability to monitor three dials at once.

Questions 30-34

Complete the summary using the list of words and phrases, A-J. below. Write the correct letter A-J in boxes 30-34 on your answer sheet. NB You may use any letter more than once.

Glass and Singer (1972) showed that situations in which there is intense noise have less effect on performance than circumstances in which (30)..... noise occurs. Subjects were divided into groups to perform a task. Some heard loud bursts of noise, others sort. For some subjects, the noise was predictable, while for others its occurrence was random. All groups were exposed to (31)..... noise. The predictable noise group (32)..... the unpredictable noise group on this task. In the second part of the experiment, the four groups were given a proofreading

task to complete under conditions of no noise. They were required to check written material for errors. The group which had been exposed to unpredictable noise (33)..... the group which had been exposed to predictable noise. The group which had been exposed to loud predictable noise performed better than those who” had heard soft, unpredictable bursts. The results suggest that (34)..... noise produces fatigue but that this manifests itself later.

- A no control over
- B unexpected
- C intense
- D the same amount of
- E performed better than
- F performed at about the same level as
- G no
- H showed more irritation than
- I made more mistakes than
- J different types of

Questions 35-40

Look at the following statements (Questions 35-40) and the list of researchers below. Match each statement with the correct researcher(s), A-E. Write the correct letter A-E, in boxes 35-40 on your answer sheet.

NB You may use any letter more than once.

- 35. Subjects exposed to noise find it difficult at first to concentrate on problem-solving tasks.
- 36. Long-term exposure to noise can produce changes in behavior which can still be observed a year later.
- 37. The problems associated with exposure to noise do not arise if the subject knows they can make it stop.
- 38. Exposure to high-pitched noise results in more errors than exposure to low-pitched noise
- 39. Subjects find it difficult to perform three tasks at the same time when exposed to noise
- 40. Noise affects a subject’s capacity to repeat numbers while carrying out another task.

List of Researchers

- A Glass and Singer
- B Broadbent
- C Finke man and Glass
- D Cohen et al.
- E None of the above

Reading Mock Test 18 Answers:

1. true
2. false
3. not given
4. true
5. false
6. not given
7. true
8. (wooden) pulleys
9. stone
10. (accomplished) sailors
11. (modern) glider
12. flight
13. messages
14. false
15. not given
16. true
17. not given
18. true
19. true
20. false
21. G
22. E
23. B
24. A
25. K
26. F
27. D

28. C

29. A

30. B

31. D

32. F

33. I

34. B

35. A

36. D

37. A

38. E

39. B

40. C

READING MOCK TEST 19

SECTION 1

(Source : Cambridge Guide to IELTS)

Ant Intelligence

When we think of intelligent members of the animal kingdom, the creatures that spring immediately to mind are apes and monkeys. But in fact the social lives of some members of the insect kingdom are sufficiently complex to suggest more than a hint of intelligence. Among these, the world of the ant has come in for considerable scrutiny lately, and the idea that ants demonstrate sparks of cognition has certainly not been rejected by those involved in these investigations.

Ants store food, repel attackers and use chemical signals to contact one another in case of attack. Such chemical communication can be compared to the human use of visual and auditory channels (as in religious chants, advertising images and jingles, political slogans and martial music) to arouse and propagate moods and attitudes. The biologist Lewis Thomas wrote Ants are so much like human beings as to be an embarrassment. They farm fungi, raise aphids as livestock, launch armies to war, use chemical sprays to alarm and confuse enemies, capture slaves, engage in child labour, exchange information ceaselessly. They do everything but watch television.

However, in ants there is no cultural transmission – everything must be encoded in the genes – whereas in humans the opposite is true. Only basic instincts are carried in the genes of a newborn baby, other skills being learned from others in the community as the child grows up. It may seem that this cultural continuity gives us a huge advantage over ants. They have never mastered fire nor progressed. Their fungus farming and aphid herding crafts are sophisticated when compared to the agricultural skills of humans five thousand-years ago but have been totally overtaken by modern human agribusiness.

Or have they? The farming methods of ants are at least sustainable. They do not ruin environments or use enormous amounts of energy. Moreover, recent evidence suggests that the crop farming of ants may be more sophisticated and adaptable than was thought.

Ants were farmers fifty million years before humans were. Ants can't digest the cellulose in leaves – but some fungi can. The ants therefore cultivate these fungi in their nests, bringing them leaves to feed on, and then use them as a source of food. Farmer ants secrete antibiotics to control other fungi that might act as 'weeds', and spread waste to fertilise the crop.

It was once thought that the fungus that ants cultivate was a single type that they had propagated, essentially unchanged from the distant past. Not so. Ulrich Mueller of Maryland and his colleagues genetically screened 862 different types of fungi taken from ants' nests. These turned out to be highly diverse: it seems that ants are continually domesticating new species. Even more impressively, DNA analysis of the fungi suggests that the ants improve or modify the fungi by regularly swapping and sharing strains with neighbouring ant colonies.

Whereas prehistoric man had no exposure to urban lifestyles – the forcing house, of intelligence – the evidence suggests that ants have lived in urban settings for close on a hundred million years, developing and maintaining underground cities of specialised chambers and tunnels.

When we survey Mexico City, Tokyo, Los Angeles, we are amazed at what has been accomplished by humans. Yet Hölldobler and Wilson's magnificent work for ant lovers, *The Ants*, describes a supercolony of the ant *Formica yessensis* on the Ishikari Coast of Hokkaido. This 'megalopolis' was

reported to be composed of 360 million workers and a million queens living in 4,500 interconnected nests across a territory of 2.7 square kilometers.

Such enduring and intricately meshed levels of technical achievement outstrip by far anything achieved by our distant ancestors. We hail as masterpieces the cave paintings in southern France and elsewhere, dating back some 20,000 years. Ant societies existed in something like their present form more than seventy million years ago. Beside this, prehistoric man looks technologically primitive. Is this then some kind of intelligence, albeit of a different kind?

Research conducted at Oxford, Sussex and Zurich Universities has shown that when; desert ants return from a foraging trip, they navigate by integrating bearings and distances, which they continuously update their heads. They combine the evidence of visual landmarks with a mental library of local directions, all within a framework which is consulted and updated. So ants can learn too.

And in a twelve-year programme of work, Ryabko and Reznikova have found evidence that ants can transmit very complex messages. Scouts who had located food in a maze returned to mobilise their foraging teams. They engaged in contact sessions, at the end of which the scout was removed in order to observe what her team might do. Often the foragers proceeded to the exact spot in the maze where the food had been. Elaborate precautions were taken to prevent the foraging team using odour clues. Discussion now centers on whether the route through the maze is communicated as a 'left- right sequence of turns or as a 'compass bearing and distance' message.

During the course of this exhaustive study, Reznikova has grown so attached to her laboratory ants that she feels she knows them as individuals – even without the paint spots used to mark them. It's no surprise that Edward Wilson, in his essay, 'In the company of ants', advises readers who ask what to do with the ants in their kitchen to: 'Watch where you step. Be careful of little lives.'

Questions 1-6

Do the following statements agree with the information given in Reading Passage 1? In boxes 1-6 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 Ants use the same channels of communication as humans do.
- 2 City life is one factor that encourages the development of intelligence.
- 3 Ants can build large cities more quickly than humans do.
- 4 Some ants can find their way by making calculations based on distance and position.
- 5 In one experiment, foraging teams were able to use their sense of smell to find food.
- 6 The essay, 'In the company of ants' explores ant communication.

Questions 7-13

Complete the summary using the list of words, A-O, below. Write the correct letter, A-O, in boxes 7-13 on your answer sheet.

Ants as farmers

Ants have sophisticated methods of farming, including herding livestock and growing crops, which are in many ways similar to those used in human agriculture. The ants cultivate a large number of different species of edible fungi which convert (7)..... into a form which they can digest. They use their own natural (8)..... as weed-killers and also use unwanted materials as

(9)..... Genetic analysis shows they constantly upgrade these fungi by developing new species and by (10)..... species with neighboring ant colonies. In fact, the farming methods of ants could be said to be more advanced than human agribusiness, since they use (11)..... methods, they do not affect the (12)..... and do not waste (13).....

- | | | | |
|---------------------|------------------------|----------------------|------------------------|
| A aphids | B agricultural | C cellulose | D exchanging |
| E energy | F fertilizers | G food | H fungi |
| I growing | J interbreeding | K natural | L other species |
| M secretions | N sustainable | O environment | |

SECTION 2

Population Movement and Genetics

A Study of the origins and distribution of human populations used to be based on archaeological and fossil evidence. A number of techniques developed since the 1950s, however, have placed the study of these subjects on a sounder and more objective footing. The best information on early population movements is now being obtained from the 'archaeology of the living body', the clues to be found in genetic material.

B Recent work on the problem of when people first entered the Americas is an example of the value of these new techniques. North-east Asia and Siberia have long been accepted as the launching ground for the first human colonisers of the New World*. But was there one major wave of migration across the Bering Strait into the Americas, or several? And when did this event, or events, take place? In recent years, new clues have come from research into genetics, including the distribution of genetic markers in modern Native Americans.

C An important project, led by the biological anthropologist Robert Williams, focused on the variants (called Gm allotypes) of one particular protein – immunoglobulin G — found in the fluid portion of human blood. All proteins 'drift', or produce variants, over the generations, and members of an interbreeding human population will share a set of such variants. Thus, by comparing the Gm allotypes of two different populations (e.g. two Indian tribes), one can establish their genetic 'distance', which itself can be calibrated to give an indication of the length of time since these populations last interbred.

D Williams and his colleagues sampled the blood of over 5,000 American Indians in western North America during a twenty- year period. They found that their Gm allotypes could be divided into two groups, one of which also corresponded to the genetic typing of Central and South American Indians. Other tests showed that the Inuit (or Eskimo) and Aleut formed a third group. From this evidence it was deduced that there had been three major waves of migration across the Bering Strait. The first, Paleo-Indian, wave more than 15,000 years ago was ancestral to all Central and South American Indians. The second wave, about 14,000-12,000 years ago, brought Na-Dene hunters, ancestors of the Navajo and Apache (who only migrated south from Canada about 600 or 700 years ago). The third wave, perhaps 10,000 or 9,000 years ago, saw the migration from North-east Asia of groups ancestral to the modern Eskimo and Aleut.

E How far does other research support these conclusions? Geneticist Douglas Wallace has studied mitochondrial DNA in blood samples from three widely separated Native American groups: Pima-Papago Indians in Arizona, Maya Indians on the Yucatdn peninsula, Mexico, and Ticuna Indians in the

Upper Amazon region of Brazil. As would have been predicted by Robert Williams's work, all three groups appear to be descended from the same ancestral (Paleo-Indian) population.

F There are two other kinds of research that have thrown some light on the origins of the Native American population; they involve the study of teeth and of languages. The biological anthropologist Christy Turner is an expert in the analysis of changing physical characteristics in human teeth. He argues that tooth crowns and roots have a high genetic component, minimally affected by environmental and other factors. Studies carried out by Turner of many thousands of New and Old World specimens, both ancient and modern, suggest that the majority of prehistoric Americans are linked to Northern Asian populations by crown and root traits such as incisor⁶ shoveling (a scooping out on one or both surfaces of the tooth), single-rooted upper first premolars⁶ and triple-rooted lower first molars.

According to Turner, this ties in with the idea of a single Paleo-Indian migration out of North Asia, which he sets at before 14,000 years ago by calibrating rates of dental micro-evolution. Tooth analyses also suggest that there were two later migrations of Na-Denes and Eskimo- Aleut.

G The linguist Joseph Greenberg has, since the 1950s, argued that all Native American languages belong to a single 'Amerind' family, except for Na-Dene and Eskimo-Aleut – a view that gives credence to the idea of three main migrations. Greenberg is in a minority among fellow linguists, most of whom favour the notion of a great many waves of migration to account for the more than 1,000 languages spoken at one time by American Indians. But there is no doubt that the new genetic and dental evidence provides strong backing for Greenberg's view. Dates given for the migrations should nevertheless be treated with caution, except where supported by hard archaeological evidence.

Questions 14-19

Reading Passage 2 has seven sections, A-G. Choose the correct headings for sections A-F from the list of headings below. Write the correct number, i-x, in boxes 14-19 on your answer sheet.

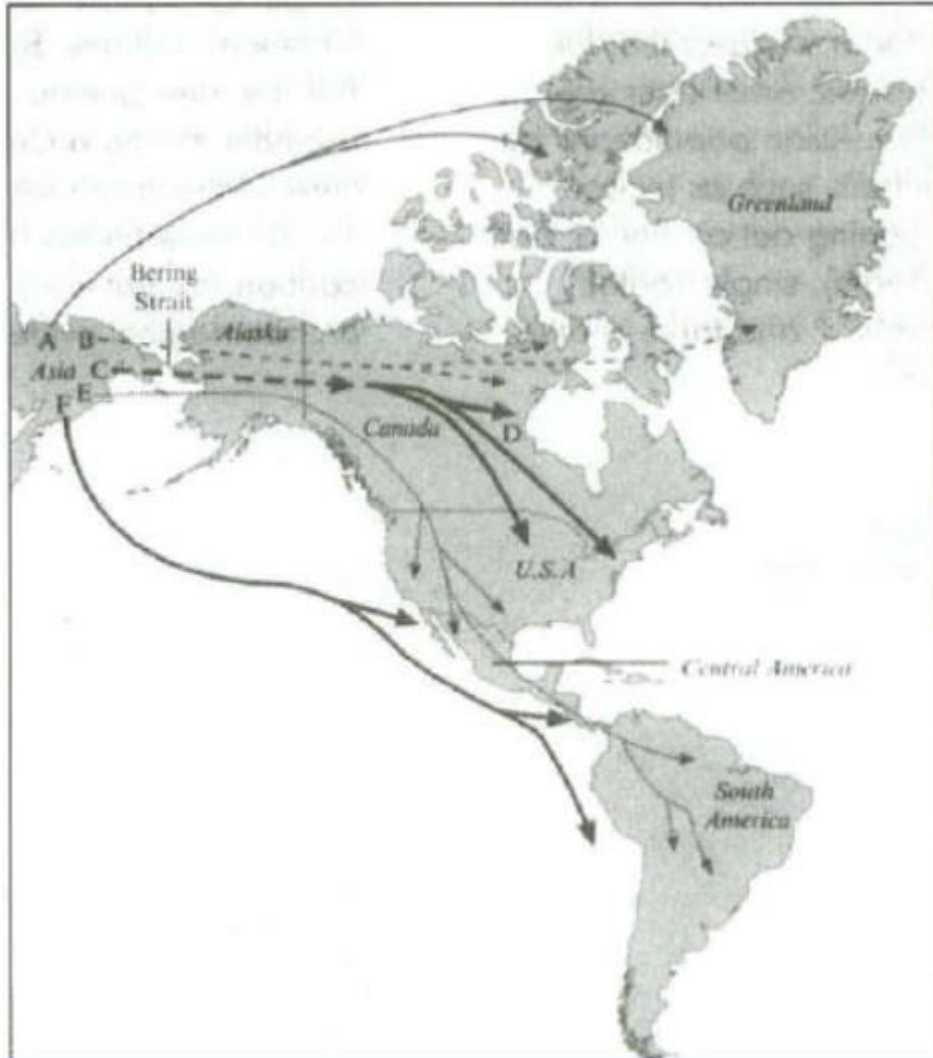
List of Headings

- i The results of the research into blood-variants
- ii Dental evidence
- iii Greenberg's analysis of the dental and linguistic evidence
- iv Developments in the methods used to study early population movements
- v Indian migration from Canada to the U.S.A.
- vi Further genetic evidence relating to the three-wave theory
- vii Long-standing questions about prehistoric migration to America
- viii Conflicting views of the three-wave theory, based on non-genetic Evidence
- ix Questions about the causes of prehistoric migration to America
- x How analysis of blood-variants measures the closeness of the relationship between different populations

- 14 Passage A
- 15 Passage B
- 16 Passage C
- 17 Passage D
- 18 Passage E
- 19 Passage F

Questions 20 and 21

The discussion of Williams’s research indicates the periods at which early people are thought to have migrated along certain routes. There are six routes, A-F, marked on the map below.



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Complete the form below. Write the correct letter A-F in boxes 20 and 21 on your answer sheet.

Route	Period (number of years ago)
(20).....	15,000 or more
(21).....	600 to 700

Questions 22-25

Reading Passage 2 refers to the three-wave theory of early migration to the Americas. It also suggests in which of these three waves the ancestors of various groups of modern native Americans first reached the continent.

Classify the groups named in the table below as originating from **A** the first wave

- B** the second wave
- C** the third wave

Write the correct letter. A, B or C, in boxes 22-25 on your answer sheet.

⊕

Name of group	Wave number
Inuit	(22).....
Apache	(23).....
Pima-Papago	(24).....
Ticuna	(25).....

Question 26

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

Christy Turner's research involved the examination of

- A** teeth from both prehistoric and modern Americans and Asians
- B** thousands of people who live in either the New or the Old World
- C** dental specimens from the majority of prehistoric Americans
- D** the eating habits of American and Asian populations

SECTION 3

Forests are one of the main elements of our natural heritage. The decline of Europe's forests over the last decade and a half has led to an increasing awareness and understanding of the serious imbalances which threaten them. European countries are becoming increasingly concerned by major threats to European forests, threats which know no frontiers other than those of geography or climate: air pollution, soil deterioration, the increasing number of forest fires and sometimes even the mismanagement of our woodland and forest heritage. There has been a growing awareness of the need for countries to get together to co-ordinate their policies. In December 1990, Strasbourg hosted the first Ministerial Conference on the protection of Europe's forests. The conference brought together 31 countries from both Western and Eastern Europe. The topics discussed included the coordinated study of the destruction of forests, as well as how to combat forest fires and the extension of European research programs on the forest ecosystem. The preparatory work for the conference had been undertaken at two meetings of experts. Their initial task was to decide which of the many forest problems of concern to Europe involved the largest number of countries and might be the subject of joint action. Those confined to particular geographical areas, such as countries bordering the Mediterranean or the Nordic countries therefore had to be discarded. However, this does not mean that in future they will be ignored.

As a whole, European countries see forests as performing a triple function: biological, economic and recreational. The first is to act as a 'green lung' for our planet; by means of photosynthesis, forests produce oxygen through the transformation of solar energy, thus fulfilling what for humans is the essential role of an immense, non-polluting power plant. At the same time, forests provide raw materials for human activities through their constantly renewed production of wood. Finally, they offer those condemned to spend five days a week in an urban environment an unrivalled area of freedom to unwind and take part in a range of leisure activities, such as hunting, riding and hiking.

The economic importance of forests has been understood since the dawn of man – wood was the first fuel. The other aspects have been recognised only for a few centuries but they are becoming more and more important. Hence, there is a real concern throughout Europe about the damage to the forest environment which threatens these three basic roles.

The myth of the 'natural' forest has survived, yet there are effectively no remaining 'primary' forests in Europe. All European forests are artificial, having been adapted and exploited by man for thousands of years. This means that a forest policy is vital, that it must transcend national frontiers and generations of people, and that it must allow for the inevitable changes that take place in the forests, in needs, and hence in policy. The Strasbourg conference was one of the first events on such a scale to reach this conclusion. A general declaration was made that 'a central place in any ecologically coherent forest policy must be given to continuity over time and to the possible effects of unforeseen events, to ensure that the full potential of these forests is maintained.

That general declaration was accompanied by six detailed resolutions to assist national policy-making. The first proposes the extension and systematisation of surveillance sites to monitor forest decline. Forest decline is still poorly understood but leads to the loss of a high proportion of a tree's needles or leaves. The entire continent and the majority of species are now affected: between 30% and 50% of the tree population. The condition appears to result from the cumulative effect of a number of factors, with atmospheric pollutants the principal culprits. Compounds of nitrogen and sulphur dioxide should be particularly closely watched. However, their effects are probably accentuated by climatic factors, such as drought and hard winters, or soil imbalances such as soil acidification, which damages the roots. The second resolution concentrates on the need to preserve the genetic diversity of European forests. The aim is to reverse the decline in the number of tree species or at least to preserve the 'genetic material' of all of them. Although forest fires do not affect all of Europe to the same extent, the amount of damage caused the experts to propose as the third resolution that the Strasbourg conference consider the establishment of a European databank on the subject. All information used in the development of national preventative policies would become generally available. The subject of the fourth resolution discussed by the ministers was mountain forests. In Europe, it is undoubtedly the mountain ecosystem which has changed most rapidly and is most at risk. A thinly scattered permanent population and development of leisure activities, particularly skiing, have resulted in significant long-term changes to the local ecosystems. Proposed developments include a preferential research program on mountain forests. The fifth resolution relaunched the European research network on the physiology of trees, called Eurosilva. Eurosilva should support joint European research on tree diseases and their physiological and biochemical aspects. Each country concerned could increase the number of scholarships and other financial support for doctoral theses and research projects in this area. Finally, the conference established the framework for a European research network on forest ecosystems. This would also involve harmonising activities in individual countries as well as identifying a number of priority research topics relating to the protection of forests. The Strasbourg conference's main concern was to provide for the future. This was the initial motivation, one now shared by all 31 participants representing 31 European countries. Their final text commits them to on-going discussion between government representatives with responsibility for forests.

Questions 27-33

Do the following statements agree with the information given in Reading Passage 3? In boxes 27-33 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

- 27 Forest problems of Mediterranean countries are to be discussed at the next meeting of experts.
28 Problems in Nordic countries were excluded because they are outside the European Economic Community.
29 Forests are a renewable source of raw material.
30 The biological functions of forests were recognised only in the twentieth century.
31 Natural forests still exist in parts of Europe.
32 Forest policy should be limited by national boundaries.
33 The Strasbourg conference decided that a forest policy must allow for the possibility of change.

Questions 34-39

Look at the following statements issued by the conference.

Which **SIX** of the following statements, A-J, refer to the resolutions that were issued?

Match the statements with the appropriate resolutions (Questions 34-39).

- A** All kinds of species of trees should be preserved.
B Fragile mountain forests should be given priority in research programs.
C The surviving natural forests of Europe do not need priority treatment.
D Research is to be better co-ordinate throughout Europe.
E Information on forest fires should be collected and shared.
F Loss Of leaves from trees should be more extensively and carefully monitored.
G Resources should be allocated to research into tree diseases.
H Skiing should be encouraged in thinly populated areas.
I Soil imbalances such as acidification should be treated with compounds of nitrogen and sulphur.
J Information is to be systematically gathered on any decline in the condition of forests.

- 34 Resolution 1
35 Resolution 2
36 Resolution 3
37 Resolution 4
38 Resolution 5
39 Resolution 6

Question 40

Choose the correct letter, A, B, C or D. Write the correct letter in box 40 on your answer sheet

- 40 What is the best title for Reading Passage 3?
A The biological, economic and recreational role of forests
B Plans to protect the forests of Europe
C The priority of European research into ecosystems
D Proposals for a world-wide policy on forest management

Reading Mock Test 19 Answers:

1. false
2. true
3. not given
4. true
5. false
6. not given
7. C
8. M
9. F
10. D
11. N
12. O
13. E
14. iv
15. vii
16. x
17. i
18. vi
19. ii
20. E
21. D
22. C
23. B
24. A
25. A
26. A
27. not given

28. false

29. true

30. false

31. false

32. false

33. true

34. J

35. A

36. E

37. B

38. G

39. D

40. B

READING MOCK TEST 20

SECTION 1 :

(Source : Cambridge Guide to IELTS)

Making Time for Science

Chronobiology might sound a little futuristic – like something from a science fiction novel, perhaps – but it's actually a field of study that concerns one of the oldest processes life on this planet has ever known: short-term rhythms of time and their effect on flora and fauna.

This can take many forms. Marine life, for example, is influenced by tidal patterns. Animals tend to be active or inactive depending on the position of the sun or moon. Numerous creatures, humans included, are largely diurnal – that is, they like to come out during the hours of sunlight. Nocturnal animals, such as bats and possums, prefer to forage by night. A third group are known as crepuscular: they thrive in the low- light of dawn and dusk and remain inactive at other hours.

When it comes to humans, chronobiologists are interested in what is known as the circadian rhythm. This is the complete cycle our bodies are naturally geared to undergo within the passage of a twenty-four hour day. Aside from sleeping at night and waking during the day, each cycle involves many other factors such as changes in blood pressure and body temperature. Not everyone has an identical circadian rhythm. 'Night people', for example, often describe how they find it very hard to operate during the morning, but become alert and focused by evening. This is a benign variation within circadian rhythms known as a chronotype.

Scientists have limited abilities to create durable modifications of chronobiological demands. Recent therapeutic developments for humans such as artificial light machines and melatonin administration can reset our circadian rhythms, for example, but our bodies can tell the difference and health suffers when we breach these natural rhythms for extended periods of time. Plants appear no more malleable in this respect; studies demonstrate that vegetables grown in season and ripened on the tree are far higher in essential nutrients than those grown in greenhouses and ripened by laser.

Knowledge of chronobiological patterns can have many pragmatic implications for our day-to-day lives. While contemporary living can sometimes appear to subjugate biology – after all, who needs circadian rhythms when we have caffeine pills, energy drinks, shift work and cities that never sleep? – keeping in synch with our body clock is important.

The average urban resident, for example, rouses at the eye-blearing time of 6.04 a.m., which researchers believe to be far too early. One study found that even rising at 7.00 a.m. has deleterious effects on health unless exercise is performed for 30 minutes afterward. The optimum moment has been whittled down to 7.22 a.m.; muscle aches, headaches and moodiness were reported to be lowest by participants in the study who awoke then.

Once you're up and ready to go, what then? If you're trying to shed some extra pounds, dieticians are adamant: never skip breakfast. This disorients your circadian rhythm and puts your body in starvation mode. The recommended course of action is to follow an intense workout with a carbohydrate-rich breakfast; the other way round and weight loss results are not as pronounced.

Morning is also great for breaking out the vitamins. Supplement absorption by the body is not temporal-dependent, but naturopath Pam Stone notes that the extra boost at breakfast helps us get energised for the day ahead. For improved absorption, Stone suggests pairing supplements with a food in which they are soluble and steering clear of caffeinated beverages. Finally, Stone warns to

take care with storage; high potency is best for absorption, and warmth and humidity are known to deplete the potency of a supplement.

After-dinner espressos are becoming more of a tradition – we have the Italians to thank for that – but to prepare for a good night’s sleep we are better off putting the brakes on caffeine consumption as early as 3 p.m. With a seven hour half-life, a cup of coffee containing 90 mg of caffeine taken at this hour could still leave 45 mg of caffeine in your nervous system at ten o’clock that evening. It is essential that, by the time you are ready to sleep, your body is rid of all traces.

Evenings are important for winding down before sleep; however, dietician Geraldine Georgeou warns that an after-five carbohydrate-fast is more cultural myth than chronobiological demand. This will deprive your body of vital energy needs. Overloading your gut could lead to indigestion, though. Our digestive tracts do not shut down for the night entirely, but their work slows to a crawl as our bodies prepare for sleep. Consuming a modest snack should be entirely sufficient.

Questions 1-7

Do the following statements agree with the information given in Reading Passage 1? In boxes 1-7 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 Chronobiology is the study of how living things have evolved over time.
- 2 The rise and fall of sea levels affects how sea creatures behave.
- 3 Most animals are active during the daytime.
- 4 Circadian rhythms identify how we do different things on different days.
- 5 A ‘night person’ can still have a healthy circadian rhythm.
- 6 New therapies can permanently change circadian rhythms without causing harm.
- 7 Naturally-produced vegetables have more nutritional value.

Questions 8-13

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

Write the correct letter in boxes 8-13 on your answer sheet.

8 What did researchers identify as the ideal time to wake up in the morning?

- A 6.04
- B 7.00
- C 7.22
- D 7.30

9 In order to lose weight, we should

- A avoid eating breakfast
- B eat a low carbohydrate breakfast
- C exercise before breakfast
- D exercise after breakfast

10 Which is **NOT** mentioned as a way to improve supplement absorption?

- A avoiding drinks containing caffeine while taking supplements
- B taking supplements at breakfast
- C taking supplements with foods that can dissolve them
- D storing supplements in a cool, dry environment

11 The best time to stop drinking coffee is

- A mid-afternoon
- B 10 p.m.
- C only when feeling anxious
- D after dinner

12 In the evening, we should

- A stay away from carbohydrates
- B stop exercising
- C eat as much as possible
- D eat a light meal

13 Which of the following phrases best describes the main aim of Reading Passage 1?

- A to suggest healthier ways of eating, sleeping and exercising
- B to describe how modern life has made chronobiology largely irrelevant
- C to introduce chronobiology and describe some practical applications
- D to plan a daily schedule that can alter our natural chronobiological rhythms

SECTION 2

The Triune Brain

The first of our three brains to evolve is what scientists call the reptilian cortex. This brain sustains the elementary activities of animal survival such as respiration, adequate rest and a beating heart. We are not required to consciously “think” about these activities. The reptilian cortex also houses the “startle centre”, a mechanism that facilitates swift reactions to unexpected occurrences in our surroundings. That panicked lurch you experience when a door slams shut somewhere in the house, or the heightened awareness you feel when a twig cracks in a nearby bush while out on an evening stroll are both examples of the reptilian cortex at work. When it comes to our interaction with others, the reptilian brain offers up only the most basic impulses: aggression, mating, and territorial defence. There is no great difference, in this sense, between a crocodile defending its spot along the river and a turf war between two urban gangs.

Although the lizard may stake a claim to its habitat, it exerts total indifference toward the well-being of its young. Listen to the anguished squeal of a dolphin separated from its pod or witness the sight of elephants mourning their dead, however, and it is clear that a new development is at play. Scientists have identified this as the limbic cortex. Unique to mammals, the limbic cortex impels creatures to nurture their offspring by delivering feelings of tenderness and warmth to the parent when children are nearby. These same sensations also cause mammals to develop various types of social relations and kinship networks. When we are with others of “our kind” – be it at soccer practice, church, school or a nightclub – we experience positive sensations of togetherness, solidarity and comfort. If we spend too long away from these networks, then loneliness sets in and encourages us to seek companionship.

Only human capabilities extend far beyond the scope of these two cortexes. Humans eat, sleep and play, but we also speak, plot, rationalise and debate finer points of morality. Our unique abilities are the result of an expansive third brain – the neocortex – which engages with logic, reason and ideas. The power of the neocortex comes from its ability to think beyond the present, concrete moment. While other mammals are mainly restricted to impulsive actions (although some, such as apes, can learn and remember simple lessons), humans can think about the “big picture”. We can string together simple lessons (for example, an apple drops downwards from a tree; hurting others causes

unhappiness) to develop complex theories of physical or social phenomena (such as the laws of gravity and a concern for human rights).

The neocortex is also responsible for the process by which we decide on and commit to particular courses of action. Strung together over time, these choices can accumulate into feats of progress unknown to other animals. Anticipating a better grade on the following morning's exam, a student can ignore the limbic urge to socialise and go to sleep early instead. Over three years, this ongoing sacrifice translates into a first class degree and a scholarship to graduate school; over a lifetime, it can mean ground-breaking contributions to human knowledge and development. The ability to sacrifice our drive for immediate satisfaction in order to benefit later is a product of the neocortex.

Understanding the triune brain can help us appreciate the different natures of brain damage and psychological disorders. The most devastating form of brain damage, for example, is a condition in which someone is understood to be brain dead. In this state a person appears merely unconscious – sleeping, perhaps – but this is illusory. Here, the reptilian brain is functioning on autopilot despite the permanent loss of other cortexes.

Disturbances to the limbic cortex are registered in a different manner. Pups with limbic damage can move around and feed themselves well enough but do not register the presence of their littermates. Scientists have observed how, after a limbic lobotomy, “one impaired monkey stepped on his outraged peers as if treading on a log or a rock”. In our own species, limbic damage is closely related to sociopathic behaviour. Sociopaths in possession of fully-functioning neocortexes are often shrewd and emotionally intelligent people but lack any ability to relate to, empathise with or express concern for others.

One of the neurological wonders of history occurred when a railway worker named Phineas Gage survived an incident during which a metal rod skewered his skull, taking a considerable amount of his neocortex with it. Though Gage continued to live and work as before, his fellow employees observed a shift in the equilibrium of his personality. Gage's animal propensities were now sharply pronounced while his intellectual abilities suffered; garrulous or obscene jokes replaced his once quick wit. New findings suggest, however, that Gage managed to soften these abrupt changes over time and rediscover an appropriate social manner. This would indicate that reparative therapy has the potential to help patients with advanced brain trauma to gain an improved quality of life.

Questions 14-22

Classify the following as typical of

- A** the reptilian cortex
- B** the limbic cortex
- C** the neocortex

Write the correct letter, A, B or C, in boxes 14-22 on your answer sheet.

- 14 giving up short-term happiness for future gains
- 15 maintaining the bodily functions necessary for life
- 16 experiencing the pain of losing another
- 17 forming communities and social groups
- 18 making a decision and carrying it out
- 19 guarding areas of land
- 20 developing explanations for things
- 21 looking after one's young
- 22 responding quickly to sudden movement and noise

Questions 23-26

Complete the sentences below. Write **NO MORE THAN TWO WORDS** from the passage for each answer. Write your answers in boxes 23-26 on your answer sheet.

23 A person with only a functioning reptilian cortex is known as.....

24in humans is associated with limbic disruption.

25 An industrial accident caused Phineas Gage to lose part of his.....

26 After his accident, co-workers noticed an imbalance between Gage's.....and higher-order thinking.

SECTION 3

HELIUM'S FUTURE UP IN THE AIR

A In recent years we have all been exposed to dire media reports concerning the impending demise of global coal and oil reserves, but the depletion of another key non-renewable resource continues without receiving much press at all. Helium – an inert, odourless, monatomic element known to lay people as the substance that makes balloons float and voices squeak when inhaled – could be gone from this planet within a generation.

B Helium itself is not rare; there is actually a plentiful supply of it in the cosmos. In fact, 24 per cent of our galaxy's elemental mass consists of helium, which makes it the second most abundant element in our universe. Because of its lightness, however, most helium vanished from our own planet many years ago. Consequently, only a miniscule proportion – 0.00052%, to be exact – remains in earth's atmosphere. Helium is the by-product of millennia of radioactive decay from the elements thorium and uranium. The helium is mostly trapped in subterranean natural gas bunkers and commercially extracted through a method known as fractional distillation.

C The loss of helium on Earth would affect society greatly. Defying the perception of it as a novelty substance for parties and gimmicks, the element actually has many vital applications in society. Probably the most well known commercial usage is in airships and blimps (non-flammable helium replaced hydrogen as the lifting gas du jour after the Hindenburg catastrophe in 1932, during which an airship burst into flames and crashed to the ground killing some passengers and crew). But helium is also instrumental in deep-sea diving, where it is blended with nitrogen to mitigate the dangers of inhaling ordinary air under high pressure; as a cleaning agent for rocket engines; and, in its most prevalent use, as a coolant for superconducting magnets in hospital MRI (magnetic resonance imaging) scanners.

D The possibility of losing helium forever poses the threat of a real crisis because its unique qualities are extraordinarily difficult, if not impossible to duplicate (certainly, no biosynthetic ersatz product is close to approaching the point of feasibility for helium, even as similar developments continue apace for oil and coal). Helium is even cheerfully derided as a "loner" element since it does not adhere to other molecules like its cousin, hydrogen. According to Dr. Lee Sobotka, helium is the "most noble of gases, meaning it's very stable and non-reactive for the most part ... it has a closed electronic configuration, a very tightly bound atom. It is this coveting of its own electrons that prevents combination with other elements'. Another important attribute is helium's unique boiling point, which is lower than that for any other element. The worsening global shortage could render millions of dollars of high-value, life-saving equipment totally useless. The dwindling supplies have already resulted in the postponement of research and development projects in physics laboratories and manufacturing plants around the world. There is an enormous supply and demand imbalance partly brought about by the expansion of high-tech manufacturing in Asia.

E The source of the problem is the Helium Privatisation Act (HPA), an American law passed in 1996 that requires the U.S. National Helium Reserve to liquidate its helium assets by 2015 regardless of the market price. Although intended to settle the original cost of the reserve by a U.S. Congress ignorant of its ramifications, the result of this fire sale is that global helium prices are so artificially deflated that few can be bothered recycling the substance or using it judiciously. Deflated values also mean that natural gas extractors see no reason to capture helium. Much is lost in the process of extraction. As Sobotka notes: “[t]he government had the good vision to store helium, and the question now is: Will the corporations have the vision to capture it when extracting natural gas, and consumers the wisdom to recycle? This takes long-term vision because present market forces are not sufficient to compel prudent practice”. For Nobel-prize laureate Robert Richardson, the U.S. government must be prevailed upon to repeal its privatisation policy as the country supplies over 80 per cent of global helium, mostly from the National Helium Reserve. For Richardson, a twenty- to fifty-fold increase in prices would provide incentives to recycle.

F A number of steps need to be taken in order to avert a costly predicament in the coming decades. Firstly, all existing supplies of helium ought to be conserved and released only by permit, with medical uses receiving precedence over other commercial or recreational demands. Secondly, conservation should be obligatory and enforced by a regulatory agency. At the moment some users, such as hospitals, tend to recycle diligently while others, such as NASA, squander massive amounts of helium. Lastly, research into alternatives to helium must begin in earnest.

Questions 27-31

Reading Passage 3 has six paragraphs, A-F.

Which paragraph contains the following information?

- 27 a use for helium which makes an activity safer
- 28 the possibility of creating an alternative to helium
- 29 a term which describes the process of how helium is taken out of the ground
- 30 a reason why users of helium do not make efforts to conserve it
- 31 a contrast between helium’s chemical properties and how non-scientists think about it

Questions 32-35

Do the following statements agree with the claims of the writer in Reading Passage 3? In boxes 32-35 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

- 32 Helium chooses to be on its own.
- 33 Helium is a very cold substance.
- 34 High-tech industries in Asia use more helium than laboratories and manufacturers in other parts of the world.
- 35 The US Congress understood the possible consequences of the HPA.

Questions 36-40

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

Sobotka argues that big business and users of helium need to help look after helium stocks because (36)..... will not be encouraged through buying and selling alone. Richardson believes that

the (37).....needs to be withdrawn, as the U.S. provides most of the world's helium. He argues that higher costs would mean people have (38)..... to use the resource many times over.

People should need a (39)..... to access helium that we still have. Furthermore, a (40)..... should ensure that helium is used carefully.



Reading Mock Test 20 Answers:

1. false
2. true
3. not given
4. false
5. true
6. false
7. true
8. C
9. C
10. B
11. A
12. D
13. C
14. C
15. A
16. B
17. B
18. C
19. A
20. C
21. B
22. A
23. brain dead
24. sociopath behaviour
25. neocortex
26. animal propensities
27. C

28. D

29. B

30. E

31. A

32. yes

33. not given

34. not given

35. no

36. prudent practice

37. privatization policy

38. incentives

39. permit

40. regulatory agency