

Reading and Use of English (1 hour 30 minutes)

PART 1

For questions 1–8, read the text below and decide which answer (A, B, C or D) best fits each gap. There is an example at the beginning (0).

Mark your answers **on the separate answer sheet**.

Example:

0 A characterized B indicated C detailed D accounted

0	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
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High notes of the singing Neanderthals

Neanderthals have been misunderstood. The early humanoids traditionally 0 _____ as ape-like brutes were deeply emotional beings with high-pitched voices. They may 1 _____ have sung to each other. This new image has 2 _____ from two studies of the vocal apparatus and anatomy of the creatures that 3 _____

Europe between 200,000 and 35,000 years ago. The research shows that Neanderthal voices might well have produced loud, womanly and highly melodic sounds – not the roars and grunts previously 4 _____ by most researchers. Stephen Mithen, Professor of Archaeology

and author of one of the studies, said: ‘What is emerging is a picture of an intelligent and emotionally complex creature whose most likely 5 _____ of communication would have been part language and part song.’

Mithen’s work 6 _____ with the first detailed study of a reconstructed Neanderthal skeleton. Anthropologists brought together bones and casts from several sites to re-create the creature. The creature that emerges would have 7 _____ markedly from humans. Neanderthals seem to have had an extremely powerful 8 _____ and no waist.

- | | | | |
|---------------|-----------------|--------------|---------------|
| 1 A further | B just | C even | D so |
| 2 A revealed | B resulted | C concluded | D happened |
| 3 A resided | B dwelt | C filled | D occupied |
| 4 A judged | B assumed | C considered | D taken |
| 5 A sort | B practice | C approach | D form |
| 6 A coincides | B occurs | C relates | D co-operates |
| 7 A differed | B distinguished | C compared | D contrasted |
| 8 A assembly | B formation | C build | D scheme |

PART 2

For questions 9–16, read the text below and think of the word which best fits each gap. Use only **one** word in each gap. There is an example at the beginning (0).

Write your answers **IN CAPITAL LETTERS** on the separate answer sheet.

Example:

0	P	L	A	C	E														
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WORLD BOOK DAY

This year’s World Book Day (WBD), which is taking 0 _____ on March 2, hopes to encourage everyone, and especially children, to discover the joy of reading.

Schools and libraries are getting involved, with a packed schedule of events designed 9 _____ bring books to life. There will be writers popping 10 _____ schools to read from their books and answer questions, and story-telling events. Children will also be able to take part in readings 11 _____ that they really have a chance to engage with the books.

As 12 _____ as hoping to encourage children to catch the reading bug, WBD also hopes to 13 _____ reluctant adults hooked on books. So, 14 _____ the first time, World Book Day will also have an adult focus, with the launch of Quick Reads, 15 _____ selection of short, fast-paced stories by well-known authors. The first set of Quick Reads will be published on World Book Day, 16 _____ a further collection of books being released later in the summer.

PART 3

For questions 17–24, read the text below. Use the word given in capitals at the end of some of the lines to form a word that fits in the gap in the same line. There is an example at the beginning (0).

Write your answers **IN CAPITAL LETTERS** on the separate answer sheet.

Example:

0 E F F E C T I V E

NORDIC WALKING

Nordic walking is an 0 _____ technique that uses poles to bring the upper body into more use and boost the calorie-burning effects of walking. It was 17 _____ devised in Finland by elite cross-country skiers as a way to keep their fitness levels up during the summer.

At first 18 _____, Nordic walking may look like skiing without the skis – or the snow. But although, to the 19 _____ eye, striding around the local park with a pair of poles may look a bit silly, it actually offers a serious 20 _____ for people of all ages and abilities. You don't 21 _____ have to go faster to get more out of it – just put in more effort with the poles. The poles, which can be made from aluminium or carbon fibre, are specially designed to 22 _____ the work done by the upper body. And because Nordic walking is also a weight-bearing exercise, it's great for 23 _____ bones and joints. But the best news is that because the effort is spread across the 24 _____ of the body, Nordic walking can actually feel easier and less tiring than normal walking.

EFFECT

ORIGIN

SEE

TRAIN

WORK

NECESSARY

MAXIMUM

STRONG

ENTIRE

PART 4

For questions 25–30, complete the second sentence so that it has a similar meaning to the first sentence, using the word given. Do not change the word given. You must use between three and six words, including the word given. Here is an example (0).

Example:

0 I didn't know the way there, so I got lost.

GET

Not _____ there, I got lost.

0 KNOWING HOW TO GET

Write **only** the missing words **IN CAPITAL LETTERS** on the separate answer sheet.

25 Can anyone solve this problem?

COME

Can anyone _____ to this problem?

26 I'm sure you're wondering why I haven't contacted you for so long.

HAS

You must _____ so long since I contacted you.

27 Are you saying that I'm lying about what happened?

TRUTH

Are you accusing _____ about what happened?

28 He made a very quick decision and he didn't think about the matter enough.

WITHOUT

He made a very quick decision _____ to the matter.

29 Recently, the number of people who are out of work has gone down.

DECREASE

Recently, _____ the number of people who are out of work.

30 It doesn't matter how badly he behaved, you shouldn't have been so rude to him.

HOWEVER

You shouldn't have been so rude to him, _____ was.

PART 5

You are going to read a newspaper article about trees and leaves. For questions 31–36, choose the answer (A, B, C or D) which you think fits best according to the text.

Mark your answers on the separate answer sheet.

Those brilliant autumn outfits may be saving trees

As trees across the northern areas of the globe turn gold and crimson, scientists are debating exactly what these colours are for. The scientists do agree on one thing: the colours are for something. That represents a major shift in thinking. For decades, textbooks claimed that autumn colours were just a by-product of dying leaves. 'I had always assumed that autumn leaves were waste baskets,' said Dr. David Wilkinson, an evolutionary ecologist at Liverpool John Moores University in England. 'That's what I was told as a student.'

During spring and summer, leaves get their green cast from chlorophyll, the pigment that plays a major role in capturing sunlight. But the leaves also contain other pigments whose colours are masked during the growing season. In autumn, trees break down their chlorophyll and draw some of the components back into their tissues. Conventional wisdom regards autumn colours as the product of the remaining pigments, which are finally unmasked.

Evolutionary biologists and plant physiologists offer two different explanations for why natural selection has made autumn colours so widespread. Dr. William Hamilton, an evolutionary biologist at Oxford University, proposed that bright autumn leaves contain a message: they warn insects to leave them alone. Dr. Hamilton's 'leaf signal' hypothesis grew out of earlier work he had done on the extravagant plumage of birds. He proposed it served as an advertisement from males to females, indicating they had desirable genes. As females evolved

a preference for those displays, males evolved more extravagant feathers as they competed for mates. In the case of trees, Dr. Hamilton proposed that the visual message was sent to insects. In the autumn, aphids and other insects choose trees where they will lay their eggs. When the eggs hatch the next spring, the larvae feed on the tree, often with devastating results. A tree can ward off these pests with poisons. Dr. Hamilton speculated that trees with strong defences might be able to protect themselves even further by letting egg-laying insects know what was in store for their eggs. By producing brilliant autumn colours, the trees advertised their lethality. As insects evolved to avoid the brightest leaves, natural selection favoured trees that could become even brighter.

'It was a beautiful idea,' said Marco Archetti, a former student of Dr. Hamilton who is now at the University of Fribourg in Switzerland. Dr. Hamilton had Mr. Archetti turn the hypothesis into a mathematical model. The model showed that warning signals could indeed drive the evolution of bright leaves – at least in theory. Another student, Sam Brown, tested the leaf-signal hypothesis against real data about trees and insects. 'It was a first stab to see what was out there,' said Dr. Brown, now an evolutionary biologist at the University of Texas.

The leaf-signal hypothesis has also drawn criticism, most recently from Dr. Wilkinson and Dr. H. Martin Schaefer, an evolutionary biologist at the University of Freiburg in Germany. Dr. Wilkinson and other critics point to a number of details

about aphids and trees that do not fit Dr. Hamilton's hypothesis. Dr. William Hoch, a plant physiologist at the University of Wisconsin, argues that bright leaves appear on trees that have no insects to warn off. 'If you are up here in the north of Wisconsin, by the time the leaves change, all the insects that feed on foliage are gone,' Dr. Hoch said. In their article, Dr. Schaefer and Dr. Wilkinson argue that a much more plausible explanation for autumn colours can be found in the research of Dr. Hoch and other plant physiologists. Their recent work suggests that autumn colours serve mainly as a sunscreen.

Dr. Hamilton's former students argue that the leaf-signal hypothesis is still worth investigating. Dr. Brown believes that leaves might be able to protect themselves both from sunlight and from insects. Dr. Brown and Dr. Archetti also argue that supporters of the sunscreen hypothesis have yet to explain why some trees have bright colours and some do not. 'This is a basic question in evolution that they seem to ignore,' Dr. Archetti said. 'I don't think it's a huge concern,' Dr. Hoch replied. 'There's natural variation for every characteristic.'

Dr. Hamilton's students and their critics agree that the debate has been useful, because it has given them a deeper reverence for this time of year. 'People sometimes say that science makes the world less interesting and awesome by just explaining things away,' Dr. Wilkinson said. 'But with autumn leaves, the more you know about them, the more amazed you are.'

- 31 What is stated about the colours of autumn leaves in the first two paragraphs?
- A There has previously been no disagreement about what causes them.
 - B The process that results in them has never been fully understood.
 - C Different colours from those that were previously the norm have started to appear.
 - D Debate about the purpose of them has gone on for a long time.
- 32 The writer says that Dr Hamilton's work has focused on
- A the different purposes of different colours.
 - B the use of colour for opposite purposes.
 - C the possibility that birds and insects have influenced each other's behaviour.
 - D the increased survival rates of certain kinds of tree.
- 33 Dr Hamilton has suggested that there is a connection between
- A the colours of autumn leaves and the behaviour of insects.
 - B the development of brighter leaves and the reduced numbers of certain types of insect.
 - C the survival of trees and the proximity of insects to them.
 - D the brightness of leaves and the development of other defence mechanisms in trees.
- 34 What is said about the work done by former students of Dr Hamilton?
- A Neither of them was able to achieve what they set out to do.
 - B Mr Archetti felt some regret about the outcome of the work he did.
 - C Both of them initiated the idea of doing the work.
 - D Dr Brown did not expect to draw any firm conclusions from his work.
- 35 Critics of Dr Hamilton's theory have expressed the view that
- A it is impossible to generalize about the purpose of the colours of autumn leaves.
 - B his theory is based on a misunderstanding about insect behaviour.
 - C the colours of autumn leaves have a different protective function.
 - D his theory can only be applied to certain kinds of insect.
- 36 In the debate between the two groups of people investigating the subject, it has been suggested that
- A something regarded as a key point by one side is in fact not important.
 - B further research will prove that Dr Hamilton's theory is the correct one.
 - C both sides may in fact be completely wrong.
 - D the two sides should collaborate.

PART 6

You are going to read four extracts from articles on freelance work. For questions 37–40, choose from the articles A–D. The articles may be chosen more than once.

Mark your answers on the separate answer sheet.

The world of freelance work

Four writers look at the working life of freelancers

A

Anyone contemplating going freelance should bear in mind that to make a real go of it may well involve working harder than in an employed position. The life doesn't suit everyone and many employed people see freelancers as a totally different breed of worker, doing something that they couldn't do and wouldn't want to. Freelancers can find that they have less free time than they used to and that they take on more than they should out of a reluctance to turn down any offer. Furthermore, they may find themselves working for less money as they go along, as any rise in the number of freelancers in their field can drive fees down as a result of competition – some freelancers will be willing to accept low fees just to get work. There are dangers for companies too: using a large proportion of freelancers can mean that knowledge that is crucial to the company's operations lies outside the company itself.

B

As more and more people join the freelance workforce, it is perhaps time for an appraisal of this development. For the freelancers themselves, this means that a higher proportion of the working population consists of people who are free to decide on their own destinies, surely no bad thing. For companies, the development allows them ever-increasing flexibility, enabling them to adapt to changing circumstances quickly rather than having permanent staff who are underemployed at times. Freelance life, as anyone who does it knows well, is tough in some ways and to do well you need to be highly disciplined and organized, as well as hard-working and reliable – qualities that not everyone has when they are left to their own devices. A lot of employed people don't see things that way at all, tending to assume that freelancers have an easy life in which they can 'pick and choose' what they do, and may choose to do little.

C

An interesting by-product of companies relying on a significant number of freelancers is that a gap can open up between those freelancers and the employed personnel on the premises. This can be problematic, for example with key personnel in a project not on hand immediately if something urgent comes up. On the other hand, the increasing number of freelancers has big advantages for everyone involved, in a wide range of areas including flexible hours, child care arrangements and matching personnel to specific requirements. It is common for employed people to envy freelancers their perceived freedom compared to their own situation but this is largely a myth. To maintain a regular and viable income in freelance work takes effort and the equation is a simple one of effort and reward – your income depends on how hard you are prepared to work.

D

Freelancers often take more responsibility for their work than employed staff, who can become bored and demotivated, and in this regard it can be said that the more freelancers there are out there, the better it is for companies. To ensure the smooth running of this set-up, companies need to manage carefully their relationship with the freelance workforce – a coherent and mutually acceptable attitude needs to be developed for dealing with people who cannot be treated in the same way as permanent employees. For freelancers, making a sustainable career can be a nerve-racking business, as it can largely depend on chance encounters, word-of-mouth information from other freelancers and unexpected approaches from potential clients. It is this high-risk factor that puts many employees off the idea of going freelance.

Which writer

expresses a similar view to writer C on the consequences for companies of employing a large number of freelancers?

37

takes a different view from the others on the desirability of an increase in the number of people becoming freelancers?

38

takes the same view as writer B on the attitude of employed people to freelance work?

39

has a different opinion from the others on the extent to which freelancers are in control of how successful they become?

40

PART 7

You are going to read a newspaper article about a space programme. Six paragraphs have been removed from the article. Choose from the paragraphs A–G the one which fits each gap (41–46). There is one extra paragraph which you do not need to use.

Mark your answers on the separate answer sheet.

HOW I BECAME A BRITISH ASTRONAUT

May 18, 2009 was a sunny evening – a night that I have good cause to remember. I had recently retired from the Army Air Corps after an extremely rewarding career of nearly 18 years as a helicopter pilot and the future looked good – I'd been fortunate to secure a dream job working as a senior test pilot for a private firm. I had also just completed a year-long selection process for the European Astronaut Corps – an incredible experience that had opened my eyes to the world of human spaceflight.

41 _____

A privately funded multimillion-dollar seat as a 'spaceflight participant' was unattainable for most. And opportunities such as the commercially sponsored Project Juno, which launched the first Briton, Helen Sharman, into space in 1989, were extremely rare.

42 _____

This was designed to identify natural ability in various cognitive skills. In reality, this meant around eight hours of

individual computer-based exercises, becoming progressively harder and with only short breaks in between. Skills such as memory retention, concentration, spatial awareness and coordination were evaluated, alongside psychological questionnaires that were to become the benchmark of this selection process – hundreds of repetitive questions, aimed at ensuring consistency of answers over a long duration.

43 _____

Historically, around 50 per cent of candidates fail the exacting medical requirements. Although good physical fitness is a strong attribute, the medical selection was not looking for potential Olympians. Instead, it was intended to select those individuals who pose the least risk of having a medical occurrence during their career. Space is no place to become ill.

44 _____

As it happens, the medical selection caused exactly 50 per cent attrition, with failure to meet cardiovascular and eyesight

requirements being the two main causes. Having endured the most gruelling week of my life, I was delighted to be among the 22 remaining candidates.

45 _____

The remainder of the selection process consisted of formal interviews, culminating in the final 10 being invited to meet ESA's Director General, Jean-Jacques Dordain. That was one month before that sunny evening in 2009, and I wondered who the lucky few would be. I suspected that I would not be one of them: an ESA press release had already announced that the new candidates would be presented at ESA headquarters in Paris on Wednesday. It was Monday night, I had not been contacted and time was getting tight.

46 _____

This was a decision that would affect not just me but also my family. Thankfully, there was no time to dwell – I had to book a flight to Paris for the following day.

- A It was also good to find that there were five British people in the group. Considering that, at the time, the UK was still in the shadow of a historical government policy not to participate in human spaceflight, it was encouraging to see the high level of interest regarding this astronaut selection.
- B Other skills include being trained to perform spacewalks for external science and maintenance tasks and to manipulate the robotic arm in order to capture and berth visiting resupply vehicles. Then there is the medical training, communications skills training, emergency training – the list goes on.
- C So when the phone rang and I was offered an opportunity to join the European Astronaut Corps, there was what can only be described as a wild mix of emotions – elation, excitement, shock and trepidation, due to an overwhelming realization that I was about to take my first steps down one of life's major forks in the road.
- D It was interesting to meet the other candidates from all over Europe and to acknowledge the plethora of diverse career paths that had led us to this common goal. While it is fair to say that the best chances of success are to have a solid foundation in the core sciences or experience as a pilot, there really is no single route to becoming an astronaut – it has more to do with being passionate about what you do and being as good as you can be.
- E Yet that situation changed when the European Space Agency (ESA) announced a selection for a new class of astronauts in 2008, and UK citizens were eligible to apply. My application joined the pile of nearly 10,000 others, and soon there followed an invitation to Hamburg to begin the testing process.
- F During the previous five years working as a military test pilot, I had become much more involved in the space sector – aviation and space are intrinsically linked and share many similar technologies. However, I had not seriously contemplated a career as an astronaut, since the options to do so were extremely limited.
- G Although the Soyuz spacecraft offers an emergency return to Earth in less than 12 hours from the International Space Station, this is an absolute last resort. Also, it is not available once a spacecraft has reached out beyond low Earth orbit.

PART 8

You are going to read an article about the design of new stations on the London Underground railway system. For questions 47–56, choose from the sections of the article (A–E). The sections may be chosen more than once.

Mark your answers on the separate answer sheet.

In which section of the article are the following mentioned?

- the previously unattractive nature of the locations of most of the stations 47
- a comparison Paoletti made to illustrate his approach to the JLE project 48
- the immediate and massive effect that one of the stations had on its surroundings 49
- a description that Paoletti considered not to be wholly accurate 50
- a fundamental question concerning the function of stations in underground systems 51
- an explanation Paoletti gave for why certain comments about the new buildings were incorrect 52
- Paoletti's desire to unite elements that had previously been seen as wholly different from each other 53
- personal qualities that enabled Paoletti to tackle the JLE project successfully 54
- parts of a station architects were not responsible for in the past 55
- Paoletti's opinion of those previously responsible for designing stations 56

Roland Paoletti An architect who revolutionized the lives of London's commuters

A Roland Paoletti was the driving force behind the dramatic, award-winning stations on the £3 billion Jubilee Line Extension (JLE) to the London Underground system, the most ambitious building programme on the Tube for many decades. An irascible Anglo-Italian, Paoletti possessed the persuasiveness and tenacity to take on the vested political interests at play in the planning of the 10-mile Jubilee Line Extension to ensure good design and innovation. Historically, architects employed on Tube projects had been restricted to 'fitting out' the designs of railway and civil engineers with few or no aesthetic concerns, and whom Paoletti dismissed as visionless 'trench-diggers'. The Jubilee line would be unique in that for the first time the architects would be responsible for designing entire underground stations.

B As the commissioning architect in overall charge, Paoletti's approach was to let light flood down into the stations along the line. The project's centrepiece was the extraordinary huge new station at Canary Wharf, designed by Norman Foster and Partners to handle up to 40,000 passengers an hour at peak times. 'Everybody keeps saying that it's like a cathedral,' complained Paoletti. 'They're wrong. It actually is a cathedral.' Explaining his approach to designing underground stations, Paoletti likened the Jubilee line to architectural free-form jazz, the stations responding to their different contexts as dramatic variations on a theme. Instead of uniformity, Paoletti envisaged variety achieved in the beauty of raw materials like concrete, and the



architectural power of simple, large spaces for robust and practical stations.

C He procured the most talented individual architects he could find to design 11 new stations along the line, creating a unique variety of architectural statement pieces – notably different but all beautiful – in what had been a largely desolate stretch of urban east London. 'For the price of an underground ticket,' he promised, 'you will see some of the greatest contributions to engineering and architecture worldwide.' Paoletti's sweeping vision did not disappoint. With their swagger and individualism, the stations have been widely acclaimed as a tour de force in public transport architecture.

D In pressing for a seamless marriage between architecture and engineering, Paoletti was concerned to make the stations pleasing to the eye, and the daily grind of commuters using them as uplifting an experience as possible. The result was generally reckoned to be the finest set of stations since the classic designs for the

Piccadilly line by Charles Holden in the 1930s. In Holden's day, design stopped at the top of the escalators leading down to the platforms, a symptom of the Tube's tradition of treating architecture and engineering as separate disciplines. From the start Paoletti promised 'a symbiosis of architecture and engineering' throughout. This is particularly evident at Westminster station, where Michael Hopkins solved structural difficulties by designing fantastic supporting structures redolent of science-fiction – what Paoletti called 'engineering that expresses itself as architecture ... in which people can delight'.

E He wanted the designs of the JLE stations to have a uniformity of voice, or, as he put it, 'a philosophical uniformity'. Paoletti contrasted the drama of MacCormac Jamieson Prichard's design for Southwark station with the vast glass drum of Ron Herron's Canada Water station, intended as a response to the area's bleakness, 'a big, splendid beacon that has transformed the area from a wasteland almost overnight'. To critics who complained about the expense of these grand designs, Paoletti pointed out that the same cut-and-cover, box-station design that allowed his architects a free hand with their various structures also saved London Underground millions in tunnelling costs. 'In any case,' he noted, 'you have to decide at the beginning whether you're going to see an underground station as a kind of vehicular underpass that happens to have people in it, or whether it's a building; a building with some other kind of job to do, like making people comfortable.'

Writing (1 hour 30 minutes)

PART 1

You **must** answer this question. Write your answer in **220–260** words in an appropriate style.

- 1 You have listened to a radio discussion programme about what can be done to increase participation in sports by people of all ages. You have made the notes below.

Ways of increasing participation in sports

- facilities
- famous sportspeople
- advertising

Some opinions expressed in the discussion:

'What people need to get started in sports is enough free or cheap facilities.'

'Campaigns involving famous sportspeople are very effective because they are role models for young people.'

'If people know what is available to them, more of them might take up sports.'

Write an essay for your tutor discussing **two** of the ways in your notes. You should **explain which way you think is likely to be the most effective** for increasing participation in sports and **provide reasons** to support your opinion.

You may, if you wish, make use of the opinions expressed in the discussion, but you should use your own words as far as possible.

PART 2

Write an answer to **one** of the questions **2–4** in this part. Write your answer in **220–260** words in an appropriate style.

- 2 You see this advertisement in an English-language magazine.

Festival Staff Required

We are looking for staff for an international rock festival, taking place over a three-day period in the west of England during the summer. We are looking for people with a good command of English who could work in the following areas:

- catering (food and drink stalls and tents)
- security (in the performance area, at entrances and around the site)
- first aid (for minor medical problems)
- retail (stalls selling merchandise relating to the artists appearing)

To apply, explain why you would like to work at the festival, give details of the role(s) you would prefer and why, and give reasons why you would be suitable. Send applications to the address below.

Write your **letter**.

- 3 A group of English-speaking visitors is going to come to the place where you work or study for a day next month. You have been asked to propose a programme for the day of their visit. In your proposal, you should suggest a schedule for the day, and give details of what each part of the schedule would involve from the beginning to the end of the visit.

Write your **proposal**.

- 4 As part of a class project about education and work, you have been asked to write a report on what young people in your city, region or country do after they leave school. Your report should include information about further studies that some young people do after they leave school and the kind of jobs that other young people do immediately after leaving school, and you should also mention where you got the information from.

Write your **report**.