

READING

READING PASSAGE 1

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

THE IMPORTANCE OF CHILDREN'S PLAY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Questions 1–8

Complete the notes below.

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

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

Children's play

Uses of children's play

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

Recent changes affecting children's play

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

International policies on children's play

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

Questions 9–13

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

In boxes 9–13 on your answer sheet, write

TRUE	<i>if the statement agrees with the information</i>
FALSE	<i>if the statement contradicts the information</i>
NOT GIVEN	<i>if there is no information on this</i>

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

READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26**, which are based on Reading Passage 2 below.

The growth of bike-sharing schemes around the world

How Dutch engineer Luud Schimmelpennink helped to devise urban bike-sharing schemes

- A** The original idea for an urban bike-sharing scheme dates back to a summer's day in Amsterdam in 1965. Provo, the organisation that came up with the idea, was a group of Dutch activists who wanted to change society. They believed the scheme, which was known as the Witte Fietsenplan, was an answer to the perceived threats of air pollution and consumerism. In the centre of Amsterdam, they painted a small number of used bikes white. They also distributed leaflets describing the dangers of cars and inviting people to use the white bikes. The bikes were then left unlocked at various locations around the city, to be used by anyone in need of transport.
- B** Luud Schimmelpennink, a Dutch industrial engineer who still lives and cycles in Amsterdam, was heavily involved in the original scheme. He recalls how the scheme succeeded in attracting a great deal of attention – particularly when it came to publicising Provo's aims – but struggled to get off the ground. The police were opposed to Provo's initiatives and almost as soon as the white bikes were distributed around the city, they removed them. However, for Schimmelpennink and for bike-sharing schemes in general, this was just the beginning. 'The first Witte Fietsenplan was just a symbolic thing,' he says. 'We painted a few bikes white, that was all. Things got more serious when I became a member of the Amsterdam city council two years later.'
- C** Schimmelpennink seized this opportunity to present a more elaborate Witte Fietsenplan to the city council. 'My idea was that the municipality of Amsterdam would distribute 10,000 white bikes over the city, for everyone to use,' he explains. 'I made serious calculations. It turned out that a white bicycle – per person, per kilometre – would cost the municipality only 10% of what it contributed to public transport per person per kilometre.' Nevertheless, the council unanimously rejected the plan. 'They said that the bicycle belongs to the past. They saw a glorious future for the car,' says Schimmelpennink. But he was not in the least discouraged.
- D** Schimmelpennink never stopped believing in bike-sharing, and in the mid-90s, two Danes asked for his help to set up a system in Copenhagen. The result was the world's first large-scale bike-share programme. It worked on a deposit: 'You dropped a coin in the bike and when you returned it, you got your money back.' After setting up the Danish system, Schimmelpennink decided to try his luck again

in the Netherlands – and this time he succeeded in arousing the interest of the Dutch Ministry of Transport. 'Times had changed,' he recalls. 'People had become more environmentally conscious, and the Danish experiment had proved that bike-sharing was a real possibility.' A new Witte Fietsenplan was launched in 1999 in Amsterdam. However, riding a white bike was no longer free; it cost one guilder per trip and payment was made with a chip card developed by the Dutch bank Postbank. Schimmelpennink designed conspicuous, sturdy white bikes locked in special racks which could be opened with the chip card – the plan started with 250 bikes, distributed over five stations.

- E** Theo Molenaar, who was a system designer for the project, worked alongside Schimmelpennink. 'I remember when we were testing the bike racks, he announced that he had already designed better ones. But of course, we had to go through with the ones we had.' The system, however, was prone to vandalism and theft. 'After every weekend there would always be a couple of bikes missing,' Molenaar says. 'I really have no idea what people did with them, because they could instantly be recognised as white bikes.' But the biggest blow came when Postbank decided to abolish the chip card, because it wasn't profitable. 'That chip card was pivotal to the system,' Molenaar says. 'To continue the project we would have needed to set up another system, but the business partner had lost interest.'
- F** Schimmelpennink was disappointed, but – characteristically – not for long. In 2002 he got a call from the French advertising corporation JC Decaux, who wanted to set up his bike-sharing scheme in Vienna. 'That went really well. After Vienna, they set up a system in Lyon. Then in 2007, Paris followed. That was a decisive moment in the history of bike-sharing.' The huge and unexpected success of the Parisian bike-sharing programme, which now boasts more than 20,000 bicycles, inspired cities all over the world to set up their own schemes, all modelled on Schimmelpennink's. 'It's wonderful that this happened,' he says. 'But financially I didn't really benefit from it, because I never filed for a patent.'
- G** In Amsterdam today, 38% of all trips are made by bike and, along with Copenhagen, it is regarded as one of the two most cycle-friendly capitals in the world – but the city never got another Witte Fietsenplan. Molenaar believes this may be because everybody in Amsterdam already has a bike. Schimmelpennink, however, cannot see that this changes Amsterdam's need for a bike-sharing scheme. 'People who travel on the underground don't carry their bikes around. But often they need additional transport to reach their final destination.' Although he thinks it is strange that a city like Amsterdam does not have a successful bike-sharing scheme, he is optimistic about the future. 'In the '60s we didn't stand a chance because people were prepared to give their lives to keep cars in the city. But that mentality has totally changed. Today everybody longs for cities that are not dominated by cars.'

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Questions 14–18

Reading Passage 2 has seven paragraphs, **A–G**.

Which paragraph contains the following information?

*Write the correct letter, **A–G**, in boxes 14–18 on your answer sheet.*

NB You may use any letter more than once.

- 14** a description of how people misused a bike-sharing scheme
- 15** an explanation of why a proposed bike-sharing scheme was turned down
- 16** a reference to a person being unable to profit from their work
- 17** an explanation of the potential savings a bike-sharing scheme would bring
- 18** a reference to the problems a bike-sharing scheme was intended to solve

Questions 19 and 20

Choose **TWO** letters, **A–E**.

Write the correct letters in boxes 19 and 20 on your answer sheet.

Which **TWO** of the following statements are made in the text about the Amsterdam bike-sharing scheme of 1999?

- A** It was initially opposed by a government department.
- B** It failed when a partner in the scheme withdrew support.
- C** It aimed to be more successful than the Copenhagen scheme.
- D** It was made possible by a change in people's attitudes.
- E** It attracted interest from a range of bike designers.

Questions 21 and 22

Choose **TWO** letters, **A–E**.

Write the correct letters in boxes 21 and 22 on your answer sheet.

Which **TWO** of the following statements are made in the text about Amsterdam today?

- A The majority of residents would like to prevent all cars from entering the city.
- B There is little likelihood of the city having another bike-sharing scheme.
- C More trips in the city are made by bike than by any other form of transport.
- D A bike-sharing scheme would benefit residents who use public transport.
- E The city has a reputation as a place that welcomes cyclists.

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Questions 23–26

Complete the summary below.

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

Write your answers in boxes 23–26 on your answer sheet.

The first urban bike-sharing scheme

The first bike-sharing scheme was the idea of the Dutch group Provo. The people who belonged to this group were **23** They were concerned about damage to the environment and about **24**, and believed that the bike-sharing scheme would draw attention to these issues. As well as painting some bikes white, they handed out **25** that condemned the use of cars.

However, the scheme was not a great success: almost as quickly as Provo left the bikes around the city, the **26** took them away. According to Schimmelpennink, the scheme was intended to be symbolic. The idea was to get people thinking about the issues.

READING PASSAGE 3

You should spend about 20 minutes on **Questions 27–40**, which are based on Reading Passage 3 below.

Motivational factors and the hospitality industry

A critical ingredient in the success of hotels is developing and maintaining superior performance from their employees. How is that accomplished? What Human Resource Management (HRM) practices should organizations invest in to acquire and retain great employees?

Some hotels aim to provide superior working conditions for their employees. The idea originated from workplaces – usually in the non-service sector – that emphasized fun and enjoyment as part of work–life balance. By contrast, the service sector, and more specifically hotels, has traditionally not extended these practices to address basic employee needs, such as good working conditions.

Pfeffer (1994) emphasizes that in order to succeed in a global business environment, organizations must make investment in Human Resource Management (HRM) to allow them to acquire employees who possess better skills and capabilities than their competitors. This investment will be to their competitive advantage. Despite this recognition of the importance of employee development, the hospitality industry has historically been dominated by underdeveloped HR practices (Lucas, 2002).

Lucas also points out that ‘the substance of HRM practices does not appear to be designed to foster constructive relations with employees or to represent a managerial approach that enables developing and drawing out the full potential of people, even though employees may be broadly satisfied with many aspects of their work’ (Lucas, 2002). In addition, or maybe as a result, high employee turnover has been a recurring problem throughout the hospitality industry. Among the many cited reasons are low compensation, inadequate benefits, poor working conditions and compromised employee morale and attitudes (Maroudas et al., 2008).

Ng and Sorensen (2008) demonstrated that when managers provide recognition to employees, motivate employees to work together, and remove obstacles preventing effective performance, employees feel more obligated to stay with the company. This was succinctly summarized by Michel et al. (2013): ‘[P]roviding support to employees gives them the confidence to perform their jobs better and the motivation to stay with the organization.’ Hospitality organizations can therefore enhance employee motivation and retention through the development and improvement of their working conditions. These conditions are inherently linked to the working environment.

While it seems likely that employees’ reactions to their job characteristics could be affected by a predisposition to view their work environment negatively, no evidence exists to support this hypothesis (Spector et al., 2000). However, given the opportunity, many people will find

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something to complain about in relation to their workplace (Poulston, 2009). There is a strong link between the perceptions of employees and particular factors of their work environment that are separate from the work itself, including company policies, salary and vacations.

Such conditions are particularly troubling for the luxury hotel market, where high-quality service, requiring a sophisticated approach to HRM, is recognized as a critical source of competitive advantage (Maroudas et al., 2008). In a real sense, the services of hotel employees represent their industry (Schneider and Bowen, 1993). This representation has commonly been limited to guest experiences. This suggests that there has been a dichotomy between the guest environment provided in luxury hotels and the working conditions of their employees.

It is therefore essential for hotel management to develop HRM practices that enable them to inspire and retain competent employees. This requires an understanding of what motivates employees at different levels of management and different stages of their careers (Enz and Siguaw, 2000). This implies that it is beneficial for hotel managers to understand what practices are most favorable to increase employee satisfaction and retention.

Herzberg (1966) proposes that people have two major types of needs, the first being extrinsic motivation factors relating to the context in which work is performed, rather than the work itself. These include working conditions and job security. When these factors are unfavorable, job dissatisfaction may result. Significantly, though, just fulfilling these needs does not result in satisfaction, but only in the reduction of dissatisfaction (Maroudas et al., 2008).

Employees also have intrinsic motivation needs or motivators, which include such factors as achievement and recognition. Unlike extrinsic factors, motivator factors may ideally result in job satisfaction (Maroudas et al., 2008). Herzberg's (1966) theory discusses the need for a 'balance' of these two types of needs.

The impact of fun as a motivating factor at work has also been explored. For example, Tews, Michel and Stafford (2013) conducted a study focusing on staff from a chain of themed restaurants in the United States. It was found that fun activities had a favorable impact on performance and manager support for fun had a favorable impact in reducing turnover. Their findings support the view that fun may indeed have a beneficial effect, but the framing of that fun must be carefully aligned with both organizational goals and employee characteristics. 'Managers must learn how to achieve the delicate balance of allowing employees the freedom to enjoy themselves at work while simultaneously maintaining high levels of performance' (Tews et al., 2013).

Deery (2008) has recommended several actions that can be adopted at the organizational level to retain good staff as well as assist in balancing work and family life. Those particularly appropriate to the hospitality industry include allowing adequate breaks during the working day, staff functions that involve families, and providing health and well-being opportunities.

Questions 27–31

Look at the following statements (Questions 27–31) and the list of researchers below.

Match each statement with the correct researcher, **A–F**.

Write the correct letter, **A–F**, in boxes 27–31 on your answer sheet.

NB You may use any letter more than once.

- 27 Hotel managers need to know what would encourage good staff to remain.
- 28 The actions of managers may make staff feel they shouldn't move to a different employer.
- 29 Little is done in the hospitality industry to help workers improve their skills.
- 30 Staff are less likely to change jobs if cooperation is encouraged.
- 31 Dissatisfaction with pay is not the only reason why hospitality workers change jobs.

List of Researchers

- A** Pfeffer
- B** Lucas
- C** Maroudas et al.
- D** Ng and Sorensen
- E** Enz and Siguaw
- F** Deery

Test 1

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 One reason for high staff turnover in the hospitality industry is poor morale.
33 Research has shown that staff have a tendency to dislike their workplace.
34 An improvement in working conditions and job security makes staff satisfied with their jobs.
35 Staff should be allowed to choose when they take breaks during the working day.

Questions 36–40

Complete the summary below.

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

Write your answers in boxes 36–40 on your answer sheet.

Fun at work

Tews, Michel and Stafford carried out research on staff in an American chain of 36 They discovered that activities designed for staff to have fun improved their 37 , and that management involvement led to lower staff 38 They also found that the activities needed to fit with both the company's 39 and the 40 of the staff. A balance was required between a degree of freedom and maintaining work standards.

READING

READING PASSAGE 1

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

Alexander Henderson (1831–1913)

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

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

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

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

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

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

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

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

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

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

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

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

Test 2

Questions 1–8

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

In boxes 1–8 on your answer sheet, write

TRUE	<i>if the statement agrees with the information</i>
FALSE	<i>if the statement contradicts the information</i>
NOT GIVEN	<i>if there is no information on this</i>

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

Questions 9–13

Complete the notes below.

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

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

Alexander Henderson**Early life**

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

Start of a photographic career

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

Travelling as a professional photographer

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

READING PASSAGE 2

You should spend about 20 minutes on **Questions 14–26**, which are based on Reading Passage 2 below.

Back to the future of skyscraper design

Answers to the problem of excessive electricity use by skyscrapers and large public buildings can be found in ingenious but forgotten architectural designs of the 19th and early-20th centuries

- A** *The Recovery of Natural Environments in Architecture* by Professor Alan Short is the culmination of 30 years of research and award-winning green building design by Short and colleagues in Architecture, Engineering, Applied Maths and Earth Sciences at the University of Cambridge.

'The crisis in building design is already here,' said Short. 'Policy makers think you can solve energy and building problems with gadgets. You can't. As global temperatures continue to rise, we are going to continue to squander more and more energy on keeping our buildings mechanically cool until we have run out of capacity.'

- B** Short is calling for a sweeping reinvention of how skyscrapers and major public buildings are designed – to end the reliance on sealed buildings which exist solely via the 'life support' system of vast air conditioning units.

Instead, he shows it is entirely possible to accommodate natural ventilation and cooling in large buildings by looking into the past, before the widespread introduction of air conditioning systems, which were 'relentlessly and aggressively marketed' by their inventors.

- C** Short points out that to make most contemporary buildings habitable, they have to be sealed and air conditioned. The energy use and carbon emissions this generates is spectacular and largely unnecessary. Buildings in the West account for 40–50% of electricity usage, generating substantial carbon emissions, and the rest of the world is catching up at a frightening rate. Short regards glass, steel and air-conditioned skyscrapers as symbols of status, rather than practical ways of meeting our requirements.

- D** Short's book highlights a developing and sophisticated art and science of ventilating buildings through the 19th and earlier-20th centuries, including the design of ingeniously ventilated hospitals. Of particular interest were those built to the designs of John Shaw Billings, including the first Johns Hopkins Hospital in the US city of Baltimore (1873–1889).

'We spent three years digitally modelling Billings' final designs,' says Short. 'We put pathogens* in the airstreams, modelled for someone with tuberculosis (TB) coughing in the wards and we found the ventilation systems in the room would have kept other patients safe from harm.'

* pathogens: microorganisms that can cause disease

- E 'We discovered that 19th-century hospital wards could generate up to 24 air changes an hour – that's similar to the performance of a modern-day, computer-controlled operating theatre. We believe you could build wards based on these principles now.'

Single rooms are not appropriate for all patients. Communal wards appropriate for certain patients – older people with dementia, for example – would work just as well in today's hospitals, at a fraction of the energy cost.'

Professor Short contends the mindset and skill-sets behind these designs have been completely lost, lamenting the disappearance of expertly designed theatres, opera houses, and other buildings where up to half the volume of the building was given over to ensuring everyone got fresh air.

- F Much of the ingenuity present in 19th-century hospital and building design was driven by a panicked public clamouring for buildings that could protect against what was thought to be the lethal threat of miasmas – toxic air that spread disease. Miasmas were feared as the principal agents of disease and epidemics for centuries, and were used to explain the spread of infection from the Middle Ages right through to the cholera outbreaks in London and Paris during the 1850s. Foul air, rather than germs, was believed to be the main driver of 'hospital fever', leading to disease and frequent death. The prosperous steered clear of hospitals.

While miasma theory has been long since disproved, Short has for the last 30 years advocated a return to some of the building design principles produced in its wake.

- G Today, huge amounts of a building's space and construction cost are given over to air conditioning. 'But I have designed and built a series of buildings over the past three decades which have tried to reinvent some of these ideas and then measure what happens.'

'To go forward into our new low-energy, low-carbon future, we would be well advised to look back at design before our high-energy, high-carbon present appeared. What is surprising is what a rich legacy we have abandoned.'

- H Successful examples of Short's approach include the Queen's Building at De Montfort University in Leicester. Containing as many as 2,000 staff and students, the entire building is naturally ventilated, passively cooled and naturally lit, including the two largest auditoria, each seating more than 150 people. The award-winning building uses a fraction of the electricity of comparable buildings in the UK.

Short contends that glass skyscrapers in London and around the world will become a liability over the next 20 or 30 years if climate modelling predictions and energy price rises come to pass as expected.

- I He is convinced that sufficiently cooled skyscrapers using the natural environment can be produced in almost any climate. He and his team have worked on hybrid buildings in the harsh climates of Beijing and Chicago – built with natural ventilation assisted by back-up air conditioning – which, surprisingly perhaps, can be switched off more than half the time on milder days and during the spring and autumn.

Short looks at how we might reimagine the cities, offices and homes of the future. Maybe it's time we changed our outlook.

Test 2

Questions 14–18

Reading Passage 2 has nine sections, **A–I**.

Which section contains the following information?

*Write the correct letter, **A–I**, in boxes 14–18 on your answer sheet.*

- 14 why some people avoided hospitals in the 19th century
- 15 a suggestion that the popularity of tall buildings is linked to prestige
- 16 a comparison between the circulation of air in a 19th-century building and modern standards
- 17 how Short tested the circulation of air in a 19th-century building
- 18 an implication that advertising led to the large increase in the use of air conditioning

Questions 19–26

Complete the summary below.

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

Write your answers in boxes 19–26 on your answer sheet.

Ventilation in 19th-century hospital wards

Professor Alan Short examined the work of John Shaw Billings, who influenced the architectural 19 of hospitals to ensure they had good ventilation. He calculated that 20 in the air coming from patients suffering from 21 would not have harmed other patients. He also found that the air in 22 in hospitals could change as often as in a modern operating theatre. He suggests that energy use could be reduced by locating more patients in 23 areas.

A major reason for improving ventilation in 19th-century hospitals was the demand from the 24 for protection against bad air, known as 25 These were blamed for the spread of disease for hundreds of years, including epidemics of 26 in London and Paris in the middle of the 19th century.

Test 2

READING PASSAGE 3

You should spend about 20 minutes on **Questions 27–40**, which are based on Reading Passage 3 on pages 47 and 48.

Questions 27–34

Reading Passage 3 has eight sections, **A–H**.

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

Write the correct number, **i–ix**, in boxes 27–34 on your answer sheet.

List of Headings

- i** Complaints about the impact of a certain approach
- ii** Fundamental beliefs that are in fact incorrect
- iii** Early recommendations concerning business activities
- iv** Organisations that put a new approach into practice
- v** Companies that have suffered from changing their approach
- vi** What people are increasingly expected to do
- vii** How to achieve outcomes that are currently impossible
- viii** Neither approach guarantees continuous improvement
- ix** Evidence that a certain approach can have more disadvantages than advantages

- 27** Section A
- 28** Section B
- 29** Section C
- 30** Section D
- 31** Section E
- 32** Section F
- 33** Section G
- 34** Section H

Why companies should welcome disorder

- A** Organisation is big business. Whether it is of our lives – all those inboxes and calendars – or how companies are structured, a multi-billion dollar industry helps to meet this need.

We have more strategies for time management, project management and self-organisation than at any other time in human history. We are told that we ought to organise our company, our home life, our week, our day and even our sleep, all as a means to becoming more productive. Every week, countless seminars and workshops take place around the world to tell a paying public that they ought to structure their lives in order to achieve this.

This rhetoric has also crept into the thinking of business leaders and entrepreneurs, much to the delight of self-proclaimed perfectionists with the need to get everything right. The number of business schools and graduates has massively increased over the past 50 years, essentially teaching people how to organise well.

- B** Ironically, however, the number of businesses that fail has also steadily increased. Work-related stress has increased. A large proportion of workers from all demographics claim to be dissatisfied with the way their work is structured and the way they are managed.

This begs the question: what has gone wrong? Why is it that on paper the drive for organisation seems a sure shot for increasing productivity, but in reality falls well short of what is expected?

- C** This has been a problem for a while now. Frederick Taylor was one of the forefathers of scientific management. Writing in the first half of the 20th century, he designed a number of principles to improve the efficiency of the work process, which have since become widespread in modern companies. So the approach has been around for a while.

- D** New research suggests that this obsession with efficiency is misguided. The problem is not necessarily the management theories or strategies we use to organise our work; it's the basic assumptions we hold in approaching how we work. Here it's the assumption that order is a necessary condition for productivity. This assumption has also fostered the idea that disorder must be detrimental to organisational productivity. The result is that businesses and people spend time and money organising themselves for the sake of organising, rather than actually looking at the end goal and usefulness of such an effort.

- E** What's more, recent studies show that order actually has diminishing returns. Order does increase productivity to a certain extent, but eventually the usefulness of the process of organisation, and the benefit it yields, reduce until the point where any further increase in order reduces productivity. Some argue that in a business, if the cost of formally structuring something outweighs the benefit of doing it, then that thing ought not to be formally structured. Instead, the resources involved can be better used elsewhere.

Test 2

- F** In fact, research shows that, when innovating, the best approach is to create an environment devoid of structure and hierarchy and enable everyone involved to engage as one organic group. These environments can lead to new solutions that, under conventionally structured environments (filled with bottlenecks in terms of information flow, power structures, rules, and routines) would never be reached.
- G** In recent times companies have slowly started to embrace this disorganisation. Many of them embrace it in terms of perception (embracing the idea of disorder, as opposed to fearing it) and in terms of process (putting mechanisms in place to reduce structure).

For example, Oticon, a large Danish manufacturer of hearing aids, used what it called a 'spaghetti' structure in order to reduce the organisation's rigid hierarchies. This involved scrapping formal job titles and giving staff huge amounts of ownership over their own time and projects. This approach proved to be highly successful initially, with clear improvements in worker productivity in all facets of the business.

In similar fashion, the former chairman of General Electric embraced disorganisation, putting forward the idea of the 'boundaryless' organisation. Again, it involves breaking down the barriers between different parts of a company and encouraging virtual collaboration and flexible working. Google and a number of other tech companies have embraced (at least in part) these kinds of flexible structures, facilitated by technology and strong company values which glue people together.

- H** A word of warning to others thinking of jumping on this bandwagon: the evidence so far suggests disorder, much like order, also seems to have diminishing utility, and can also have detrimental effects on performance if overused. Like order, disorder should be embraced only so far as it is useful. But we should not fear it – nor venerate one over the other. This research also shows that we should continually question whether or not our existing assumptions work.

Questions 35–37

Complete the sentences below.

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

Write your answers in boxes 35–37 on your answer sheet.

- 35 Numerous training sessions are aimed at people who feel they are not enough.
- 36 Being organised appeals to people who regard themselves as
- 37 Many people feel with aspects of their work.

Questions 38–40

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

In boxes 38–40 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

- 38 Both businesses and people aim at order without really considering its value.
- 39 Innovation is most successful if the people involved have distinct roles.
- 40 Google was inspired to adopt flexibility by the success of General Electric.

TEST 1

READING

**Reading Passage 1,
Questions 1–13**

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

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

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

21&22 IN EITHER ORDER

- D
- E
- 23 activists
- 24 consumerism
- 25 leaflets
- 26 police

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

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

If you score ...

0–17	18–26	27–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.

TEST 2

READING

**Reading Passage 1,
Questions 1–13**

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

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

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

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

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

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

If you score ...

0–18	19–27	28–40
you are unlikely to get an acceptable score under examination conditions and we recommend that you spend a lot of time improving your English before you take IELTS.	you may get an acceptable score under examination conditions but we recommend that you think about having more practice or lessons before you take IELTS.	you are likely to get an acceptable score under examination conditions but remember that different institutions will find different scores acceptable.