IELTS PLANET PRESENTS

IELTS QUANG THẮNG

IELTS READING

HỆ THỐNG BÀI TẬP KHOÁ HỌC IELTS READING ĐƠN GIẢN VÀ HIỆU QUẢ

Hơn 100 trang bài tập

Soạn thảo bởi Quang Thắng - Reading 9.0

IELTS Planet - 2016

Các bài tập trong quyển Bài tập này được trích từ các sách IELTS Cambridge.

Hướng dẫn sử dụng Khóa học online
"IELTS Reading đơn giản và hiệu quả"

Chào các bạn, mình là Quang Thắng - chính là giảng viên thực hiện khóa học Reading này. Mình rất cảm ơn các bạn đã tin tưởng mình và đăng ký tham gia khóa học. Sau đây sẽ là một số điều các bạn cần lưu ý khi học khóa học này.

- Khóa học sẽ bao gồm gần 20 video bài giảng. Vì mình đã sắp xếp bài giảng theo thứ tự logic và khoa học theo từng bước, các bạn cần xem lần lượt các video từ đầu đến cuối chứ không nên bỏ cách.

- Trong khóa học này, mình sẽ giao bài tập rất nhiều (khóa học chủ yếu là luyện làm đề theo các chiến thuật mình hướng dẫn và sau đó chữa đề). **Các bạn cần làm đầy đủ tất cả các bài tập theo lộ trình mình hướng dẫn qua từng video**. Chú ý rằng nếu các bạn không làm đủ bài tập một cách nghiêm túc, khả năng các bạn đạt được mục tiêu tăng ít nhất 1.0 Reading sau khóa học sẽ khó khăn hơn.

- Các bài giảng trong video mình giảng theo tốc độ trung bình. Nếu bạn nào thấy hơi nhanh thì nên tua đi tua lại những phần quan trọng để hiểu bài rõ hơn. Nếu như bạn nào trình độ khá mà thấy mình giảng hơi chậm và kĩ thì kiên nhẫn một chút :D

- Với các bài tập mình đều có phần **Đáp án giải thích chi tiết và Bảng so sánh từ khóa**. Đây là công cụ cực hữu ích giúp các bạn cải thiện vốn từ vựng. Các bạn nhớ phải học thật kĩ các Bảng từ khóa này sau mỗi bài học nhé.

Tham gia group facebook

Một trong những điểm hay nhất trong khóa học này đó là các bạn sẽ có thể dễ dàng tương tác với giảng viên - là mình (khác với các khóa học online khác). Mình đã lập ra 1 group facebook cho tất cả các bạn đã đăng ký tham gia khóa học. Trong group facebook này mình sẽ: giải đáp các câu hỏi liên quan đến khóa học Reading, và thường xuyên post các bài tập nhỏ để các bạn luyện tập, nhằm giúp đạt hiệu quả tối đa.

Cách tham gia group facebook như sau:

Sau khi các bạn đã hoàn thành xong các bước thanh toán và nhận được email xác nhận "Đơn hàng thanh toán thành công" từ IELTS Planet, các bạn chụp ảnh lại email này, sau đó gửi cho mình ảnh này kèm theo các thông tin: Họ tên, Email (cái mà các bạn dùng để đăng ký khóa học), và Mã số đơn hàng (Order number). Các bạn gửi qua inbox vào fanpage IELTS Quang Thắng (facebook.com/ieltsquangthang) hoặc facebook cá nhân của mình là Trần Quang Thắng (facebook.com/quangthangtran1992). Sau đó mình sẽ xác nhận và add các bạn vào group.

Quy định khi post câu hỏi trên group:

Các bạn sẽ có thể post tất cả những thắc mắc liên quan đến nội dung khóa học IELTS Reading của mình.

Riêng với trường hợp nếu các bạn muốn hỏi về các câu hỏi cụ thể trong các đề Reading (ví dụ có câu nào các bạn đọc đáp án xong vẫn không hiểu, hoặc có câu nào các bạn không làm được), các bạn **có thể hỏi trong số các đề mình giao trong nội dung Khóa học, và cả những đề nằm ngoài Khóa học**, nhưng với các điều kiện sau:

1. Câu hỏi của bạn phải nằm trong bộ sách chính thức của Cambridge (bao gồm các quyển Cam 5-11 và quyển The Official Cambridge Guide to IELTS). Các câu hỏi ở những sách khác mình sẽ không ưu tiên giải đáp vì đó không phải là sách chính thức, cách ra đề có thể sẽ khác với đề thi thật).

2. Khi hỏi, các bạn vui lòng post đủ Câu hỏi và Câu tương ứng trong passage mà các bạn đã tìm. Các bạn không post nội dung như thế này "Cho mình hỏi câu 5 trang 69 quyển Cam 6" nhé.

Kết luận:

Nhìn chung, mình sẽ cố gắng hết mức có thể để có thể mang lại tối đa hiệu quả của khóa học này cho các bạn. Tuy nhiên, khi đưa ra khóa học chắc chắn mình không thể tránh khỏi những sai sót. Mình mong các bạn nếu như thấy có điều gì chưa ổn về khóa học này, hãy góp ý cho mình một cách thiện chí để mình có những điều chỉnh kịp thời.

Một lần nữa cảm ơn các bạn đã đăng ký tham gia khóa học. Chúc các bạn học tốt và có thể đạt được kết quả IELTS như mong muốn.

IELTS Quang Thắng

BÀI 2: PHÂN TÍCH TỪ KHÓA TRONG CÂU HỎI

Phân tích các từ khóa loại 1 và loại 2 trong các câu hỏi dưới đây. Với các từ khóa loại 2, bạn hãy đưa ra một vài dự đoán về các cách paraphrase trong passage.

1. There was little improvement in athletic performance before the twentieth century.
2. Teenagers whose parents smoke are at risk of getting lung cancer at some time during their lives.
3. Thirty per cent of deaths in the United States are caused by smoking related diseases.
4. Many people carry out research in a mistaken way.
5. It is currently possible to measure the pollution coming from individual vehicles whilst they are moving.
6. Residents of Los Angeles are now tending to reduce the yearly distances they travel by car.
7. Charging drivers for entering certain parts of the city has been successfully done in Cambridge, England
8. Archaeologists went back to the site to try and find the missing northern end of the boat.
9. Evidence found in 2004 suggested that the Bronze-Age Boat had been used for trade.
10. Shirase's original ambition was to travel to the North Pole.
11. Some Japanese officials thought Shirase's intention to travel to the South Pole was pointless.
12. Shirase found it easy to raise the money he needed for his trip to the South Pole.
13. In the future, farmers are likely to increase their dependency on chemicals.
14. An important concern for scientists is to ensure that robots do not seem frightening.
15. It will take considerable time for modern robots to match the ones we have created in films and books.
16. Our ability to deal with a lot of input materials has improved over time.

BÀI 3: TÌM VỊ TRÍ THÔNG TIN TRONG PASSAGE

Tìm và gạch chân các đoạn chứa thông tin tương ứng với từng câu hỏi.

PASSAGE 1

Insects, birds and fish tend to be the creatures that humans feel furthest from. Unlike many mammals they do not engage in human-like behaviour. The way they swarm or flock together does not usually get good press coverage either: marching like worker ants might be a common simile for city commuters, but it's a damning, not positive, image. Yet a new school of scientific theory suggests that these swarms might have a lot to teach us.

American author Peter Miller explains, 'I used to think that individual ants knew where they were going, and what they were supposed to do when they got there. But Deborah Gordon, a biologist at Stanford University, showed me that nothing an ant does makes any sense except in terms of the whole colony. Which makes you wonder if, as individuals, we don't serve a similar function for the companies where we work or the communities where we live.' Ants are not intelligent by themselves. Yet as a colony, they make wise decisions. And as Gordon discovered during her research, there's no one ant making decisions or giving orders.

Take food collecting. No ant decides, 'There's lots of food around today; lots of ants should go out to collect it.' Instead, some foragers go out, and as soon as they find food, they pick it up and come back to the nest. At the entrance, they brush past reserve foragers, sending a 'go out' signal. The faster the foragers come back, the more food there is and the faster other foragers go out, until gradually the amount of food being brought back diminishes. An organic calculation has been made to answer the question, 'How many foragers does the colony need today?' And if something goes wrong – a hungry lizard prowling around for an ant snack, for instance – then a rush of ants returning without food sends waiting reserves a 'Don't go out' signal.

Câu hỏi

1. Birds and fish's ways of behaving are not similar to those of people.

2. From her study, Gordon found out that no individual ant has leadership roles.

3. When forager ants have already located food, they take it and return to where they live.

PASSAGE 2

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 grandfathers 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 tired 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 enrollment 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, Perkins 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 favors 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.

Câu hỏi

1. Perkin soon developed his passions for several subjects when he was a little child.

2. Perkin's lecturer was the person who recognised his ability and dedication as a student of chemistry.

3. Perkin made the discovery that made him rich and famous subsequent to becoming an assistant of Hofmann.

4. The tree from which quinine is derived grow in South America.

5. Perkin hoped to produce quinine from a coal tar waste product.

6. A well-known person claimed that luck only comes to a person who has worked hard.

PASSAGE 3

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.

Câu hỏi

1. Inuit people are living in very harsh weather conditions.

2. When you visit the Canadian Arctic, you can immediately understand the problems faced by people living in this area.

3. For thousands of years after arriving, they have had to rely on catching marine species as a means of sustenance.

4. For the present inhabitants, living continues to be a struggle.

PASSAGE 4

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 proper odours 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.

Câu hỏi

1. Tests have shown that odours can help people recognise the clothes belonging to their husbands and wives.

2. Certain linguistic groups may have difficulty describing smell because they lack the appropriate lexical items.

3. Scientists have yet to discovered if smells only have impacts on the nose.

4. Odours regarded as unpleasant in certain cultures are not regarded as unpleasant in others.

BÀI 4: DẠNG GAP FILLING

Ví dụ:

1. For thousands of years they had to rely on catching _____ and _____ as a means of sustenance. **Passage:** Humans first settled in the Arctic a mere 4,500 years ago, surviving by exploiting sea mammals and fish.
2. The territory of Nunavut consists of little more than ice, rock and a few _____ . **Passage:** Nunavut is 1.9 million square kilometers of rock and ice, and a handful of islands around the North Pole.
3. In recent years, many of them have been obliged to give up their _____ lifestyle, but they continue to depend mainly on _____ for their food and clothes. **Passage:** 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.
4. Over two thousand years ago, kites were used in China as weapons, as well as for sending _____ . **Passage:** And other ancient civilizations certainly knew about kites; as early as 1250 BC, the Chinese were using them to deliver messages and dump flaming debris on their foes.
5. Savoury is a better-known word for _____. **Passage:** Certainly, our mouths and tongues have taste buds, which are receptors for the five basic flavors: sweet, salty, sour, bitter, and umami, or what is more commonly referred to as savoury.

6. The tongue was originally developed to recognise the unpleasant taste of _____ .

Passage:

But our tongues are inaccurate instruments as far as flavor is concerned. They evolved to recognise only a few basic tastes in order to quickly identify toxins, which in nature are often quite bitter or acidly sour.

7. Gordon Shepherd uses the word 'neurogastronomy' to draw together a number of _____ related to the enjoyment of eating.

Passage:

Shepherd has come up with the term 'neurogastronomy' to link the disciplines of food science, neurology, psychology, and anthropology with the savory elements of eating, one of the most enjoyed of human experiences.

8. Zhang refers to his business as a _____.

Passage:

When asked why he decided to start a construction company, Zhang replies, 'It's not a construction company. It's a structural revolution.'

9. In the late eighties, _____ were holding back industrial progress in China.

Passage:

Towards the end of the 1980s, China's economy was expanding past the capacity of the nation's electricity grid, she explains. Power shortages were becoming a serious obstacle to growth.

10. In addition to power and cost benefits, Broad's AC units improve _____ .

Passage:

Broad's large air-conditioning (AC) units fueled by natural gas could help companies ease their electricity load, reduce overheads, and enjoy more reliable climate control into the bargain.

SECTION 2 *Questions 15–27*

Read the text below and answer Questions 15–20.

Kenichi Software: security guidelines for staff

General
It is in everyone's interest to maintain a high level of security in the workplace. You should immediately challenge any person who appears to be on the premises without proper authorisation, or inform a senior member of staff about any odd or unusual activity.

Company Property
You are advised that it is within the company's legal rights to detain any person on the grounds that they may be involved in the unauthorised removal of company property. The company reserves the right to search staff members leaving or entering the premises and to inspect any article or motor vehicle on company property. It is a condition of employment that you submit to such action if requested.

It is in your own interest to ensure that you have proper authority before removing any item of company property from a company building. Any member found removing company property from the building without proper authority will be subject to disciplinary action.

Identity Badges
You will be issued with an identity badge, which should be worn at all times when you are on company premises. The purpose of these badges is to safeguard our security. Badges are issued by Human Resources, and contractors and people visiting the company on a one-off basis are also obliged to wear them.

Confidential Matters
In the course of your work you may have access to information relating to the company's business, or that of a supplier or customer. Such material, even where it appears comparatively trivial, can have a serious effect on the company, supplier or customer if it falls into the wrong hands. It is, therefore, essential that you should at all times be aware of the serious view the company would take of disclosure of such material to outsiders.

You must treat as confidential all information, data, specifications, drawings and all documents relating to the company's business and/or its trading activities, and not divulge, use, or employ them except in the company's service. Before you leave the company, you must hand over to your manager all private notes relevant to the company's business, activities, prices, accounts, costs etc. Legal proceedings may be initiated for any misuse or unauthorised disclosure of such confidential information, whether during employment or afterwards.

Questions 15–20

Complete the sentences below.

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

Write your answers in boxes 15–20 on your answer sheet.

15 If you see anything suspicious, you should report it to a ..... employee.

16 If the company wants to stop you and ..... you, you have to agree to it.

17 If you take things belonging to the company without permission, you will face ..... .

18 Staff, ... and visitors must all wear a badge on company premises.

19 You must not pass on confidential information to ..... .

20 If you leave the company, you have to hand in any ..... you have made on matters concerning the company.

SECTION 2 *Questions 15–27*

Read the text below and answer Questions 15–20.

Professional Credentials: Advice for Immigrants

As an immigrant to North America, you will need to ensure that employers and organisations such as colleges and universities properly recognise your international credentials. These may be trade certificates, but also educational qualifications such as degrees or diplomas, that you have completed or partially-completed.

It is common for hiring personnel to have little or no training in evaluating an academic background earned outside of North America. But at the same time, employers see formal education as very important when hiring. Education is a hiring requirement for 60% of employment opportunities, but 40% of human resources staff say that if they do not know a lot about the value of documents attained elsewhere, they will not recognise them.

Research has shown that sometimes immigrants start with a lower salary level than people who have completed their training in North America. You may want to apply for employment opportunities with companies whose staff understands your situation or, more importantly, who know where to send you to get your North American qualifications. If you need to complete your training in North America, apprenticeships leading to skilled trades are in high demand. Apprenticeship training is a hands-on program where about 10% is in a classroom setting at community colleges, and 90% of the training is on-the-job. The training involves working for an employer and earning income during the training period. Sometimes there is a limit of 5 years for training. You may be able to use this training toward college or university credits or education. There is a good potential for long-term job security after completion of apprenticeship training.

If you earned your papers outside of North America, you will need to get them translated if you want to work or study. It is important for you that your education is assessed by an accredited assessment service when you are applying for jobs, and particularly if the job posting has an education requirement. As well, it is recommended that you include a copy of the report with your cover letter. It is suggested that you provide this information early and do not wait until the time you actually meet with the employer. Getting job interviews is more than 50% of the whole process of securing employment; and with an evaluation report, you want to make sure that employers are screening you 'in' rather than 'out'.

Establishing yourself in North America is a difficult process, but companies do consider integrating immigrants into the workforce important to the workplace mosaic. Employers are making significant progress in improving diversity at work.

Questions 15–20

Complete the sentences below.

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

Write your answers in boxes 15–20 on your answer sheet.

15 New arrivals to North America need to make sure that their academic qualifications or their ..... are accepted.

16 A significant number of companies view ..... as a major requirement.

17 People educated in North America may initially be offered a higher ..... than immigrants.

18 ..... courses often provide more job stability.

19 Most of the effort to find work is spent trying to obtain ..... .

20 As more newcomers enter the workforce, ... increases.

PASSAGE 3

The sudden death of her husband in 1906 was a bitter blow to Marie Curie, but was also a turning point in her career: henceforth she was to devote all her energy to completing alone the scientific work that they had undertaken. On May 19, 1906, she was appointed to the professorship that had been left vacant on her husband's death, becoming the first woman to teach at the Sorbonne. In 1911 she was awarded the Nobel Prize for Chemistry for the isolation of a pure form of radium.

During World War I, Marie Curie, with the help of her daughter Irene, devoted herself to the development of the use of X—radiography, including the mobile units which came to be known as 'little Curies', used for the treatment of wounded soldiers. In 1918 the Radium Institute, whose staff Irene had joined, began to operate in earnest, and became a centre for nuclear physics and chemistry. Marie Curie, now at the highest point of her fame and, from 1922, a member of the Academy of Medicine, researched the chemistry of radioactive substances and their medical applications

ln 1921, accompanied by her two daughters, Marie Curie made a triumphant journey to the United States to raise funds for research on radium. Women there presented her with a gram of radium for her campaign. Marie also gave lectures in Belgium. Brazil, Spain and Czechoslovakia and, in addition, had the satisfaction of seeing the development of the Curie Foundation in Paris. and the inauguration in 1932 in Warsaw of the Radium Institute, where her sister Bronia became director.

One of Marie Curie's outstanding achievements was to have understood the need to accumulate intense radioactive sources, not only to treat illness but also to maintain an abundant supply for research. The existence in Paris at the Radium Institute of a stock of grams of radium made a decisive contribution to the success of the experiments undertaken in the years around 1930. This work prepared the way for the discovery of the neutron by Sir James Chadwick and, above all, for the discovery in 1934 by Irene and Frédéric Joliot- Curie of artificial radioactivity. A few months after this discovery, Marie Curie died as a result of leukaemia caused by exposure to radiation. She had often carried test tubes containing radioactive isotopes in her pocket, remarking on the pretty blue-green light they gave off.

Her contribution to physics had been immense, not only in her own work, the importance of which had been demonstrated by her two Nobel Prizes, but because of her influence on subsequent generations of nuclear physicists and chemists.

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

In 1911, Marie Curie received recognition for her work on the element **9**.....

Marie and Irene Curie developed X-radiography which was used as a medical technique for **10** ..... .

Marie Curie saw the importance of collecting radioactive material both for research and for cases of **11** .....

The radioactive material stocked in Paris contributed to the discoveries in the 1930s of the **12** …… and of what was known as artificial radioactivity.

During her research, Marie Curie was exposed to radiation and as a result she suffered from **13** .....

PASSAGE 4

The roots of clog dancing go back several hundred years, and lie in traditional dances of the Dutch, Native Americans and African-Americans, in which the dancer strikes the ground with their heel or toes, to produce a rhythm that's audible to everyone around. In England, clogging is believed to have first developed in the mid-19th century in the cotton mills of Lancashire, in the north-west, where workers created a dance that imitated the sound of the machinery. The style quickly spread and developed a number of regional variations. In Northumberland, it became a recreation for miners, who danced solo or to the accompaniment of a fiddle.

"The Northumberland style is very distinct from Lancashire clogging," says Laura Connolly, a virtuoso dancer who worked with Hazlewood on the programme. "Northumbrian dancing is quite neat and precise with almost no upper-body movement, whereas the Lancastrian style is more flamboyant."

Whatever the region, clogging remains very much a minority pursuit. Yet at the turn of the 20th century, clogging was a fully-fledged youth craze. Two famous comic film actors, Stan Laurel and Charlie Chaplin, both began their careers as cloggers. But the dance almost completely died out with the passing of the industrial age. "People danced in clogs because they were cheap, hardwearing and easily repaired," Connolly says. "Yet eventually clogs became associated with poverty and people were almost ashamed to wear them."

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

The origins of clog dancing

- Originated in the Netherlands and North America
- In England, probably invented by factory workers copying the noise made by the **38**..... in mills
- In Northumberland, was danced by **39**.....
- Very popular in the early 20th century
- Lost popularity when clogs were thought to indicate **40**.....

PASSAGE 5

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 and 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.

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

Early methods of producing flat glass

Method	**Advantages**	**Disadvantages**
1……..	• Glass Remained **2……**	• Slow • **3……**
Ribbon	• Could produce glass sheets of varying **4……..** • Non-stop process	• Glass was **5……..** • 20% of glass rubbed away • Machines were expensive

PASSAGE 6

Miller explains that he first really understood the impact that swarm behaviour could have on humans when he read a study of honeybees Tom Seeley, a biologist at Cornell University. The honeybees choose as a group which new nest to move to. First, scouts fly off to investigate multiple sites. When they return they do a "waggle dance" for their spot, and other scouts will then fly off and investigate it. Many bees go out, but none tries to compare all sites. Each reports back on just one. The more they liked the nest, the more vigorous and lengthy their waggle dance and the more bees will choose to visit it. Gradually the volume of bees builds up towards one site; it's a system that ensures that support for the best site snowballs and that the decision is made in the most democratic way.

Questions 10–13

Complete the flow-chart below.

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

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

How honeybees choose a new nest

Honeybee **10** ..... explore possible nest sites

↓

they perform what is known as a **11** ..... on their return

↓

other bees go out and report back

↓

enthusiasm and **12** ..... increase for one particular site

↓

a final choice is reached using a **13** ..... process

BÀI 5: DẠNG SUMMARY FILLING

PASSAGE 1

Evidence suggests that a key step is to develop a policy on bullying, saying clearly what is meant by bullying, and giving explicit guidelines on what will be done if it occurs, what record will be kept, who will be informed, what sanctions will be employed. The policy should be developed through consultation, over a period of time-not just imposed from the head teacher's office! Pupils, parents and staff should feel they have been involved in the policy, which needs to be disseminated and implemented effectively.

Other actions can be taken to back up the policy. There are ways of dealing with the topic through the curriculum, using video, drama and literature. These are useful for raising awareness, and can best be tied in to early phases of development while the school is starting to discuss the issue of bullying. They are also useful in renewing the policy for new pupils, or revising it in the tight of experience. But curriculum work alone may only have short-term effects; it should be an addition to policy work, not a substitute.

There are also ways of working with individual pupils, or in small groups. Assertiveness training for pupils who are liable to be victims is worthwhile, and certain approaches to group bullying such as 'no blame', can be useful in changing the behaviour of bullying pupils without confronting them directly, although other sanctions may be needed for those who continue with persistent bullying.

Work in the playground is important, too. One helpful step is to train lunchtime supervisors to distinguish bullying from playful fighting, and help them break up conflicts. Another possibility is to improve the playground environment, so that pupils are less likely to be led into bullying from boredom or frustration.

With these developments, schools can expect that at least the most serious kinds of bullying can largely be prevented. The more effort put in and the wider the whole school involvement, the more substantial the results are likely to be. The reduction in bullying - and the consequent improvement in pupil happiness- is surely a worthwhile objective.

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

What steps should schools take to reduce bullying?

The most important step is for the school authorities to produce a **35** ..... which makes the school's attitude towards bullying quite clear. It should include detailed **36** ..... as to how the school and its staff will react if bullying occurs. In addition, action can be taken through the **37** ..... This is particularly useful in the early part of the process, as a way of raising awareness and encouraging discussion. On its own, however, it is insufficient to bring about a permanent solution. Effective work can also be done with individual pupils and small groups. For example, potential **38** ..... of bullying can be trained to be more self-confident. Or again, in dealing with group bullying, a 'no blame' approach, which avoids confronting the offender too directly, is often effective. Playground supervision will be more effective if members of staff are trained to recognise the difference between bullying and mere **39** ..... .

PASSAGE 2

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.

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

Additional 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. The discovery on one pyramid of an object which resembled a **10**..... suggests they may have experimented with **11**..... . In addition, over two thousand years ago kites were used in China as weapons, as well as for sending **12**..... .

PASSAGE 3

What else might the engineer think of? Well, blind humans sometimes seem to have an uncanny sense of obstacles in their path. It has been given the name 'facial vision', because blind people have reported that it feels a bit like the sense of touch, on the face. One report tells of a totally blind boy who could ride his tricycle at good speed round the block near his home, using facial vision. Experiments showed that, in fact, facial vision is nothing to do with touch or the front of the face, although the sensation may be referred to the front of the face, like the referred pain in a phantom limb. The sensation of facial vision, it turns out, really goes in through the ears. Blind people, without even being aware of the fact, are actually using echoes of their own footsteps and of other sounds, to sense the presence of obstacles. Before this was discovered, engineers had already built instruments to exploit the principle, for example to measure the depth of the sea under a ship. After this technique had been invented, it was only a matter of time before weapons designers adapted it for the detection of submarines. Both sides in the Second World War relied heavily on these devices, under such codenames as Asdic (British) and Sonar (American), as well as Radar (American) or RDF (British), which uses radio echoes rather than sound echoes.

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

Facial Vision

Blind people report that so-called 'facial vision' is comparable to the sensation of touch on the face. In fact, the sensation is more similar to the way in which pain from a **6**..... arm or leg might be felt. The ability actually comes from perceiving **7**..... through the ears. However, even before this was understood, the principle had been applied in the design of instruments which calculated the **8**..... of the seabed. This was followed by a wartime application in devices for finding **9**..... .

PASSAGE 4

One of the social needs addressed by conversational flow is the human need for ‘synchrony' - to be ‘in sync' or in harmony with one another Many studies have shown how people attempt to synchronize with their partners, by coordinating their behavior. This interpersonal coordination underlies a wide array of human activities, ranging from more complicated ones like ballroom dancing to simply walking or talking with friends.

In conversations, interpersonal coordination is found when people adjust the duration of their utterances and their speech rate to one another so that they can enable turn-taking to occur, without talking over each other or experiencing awkward silences. Since people are very well-trained in having conversations, they are often able to take turns within milliseconds, resulting in a conversational flow of smoothly meshed behaviors. A lack of flow is characterized by interruptions, simultaneous speech or mutual silences. Avoiding these features is important for defining and maintaining interpersonal relationships.

The need to belong has been identified as one of the most basic of human motivations and plays a role in many human behaviors. That conversational flow is related to belonging may be most easily illustrated by the consequences of flow disruptions. What happens when the positive experience of flow is disrupted by, for instance, a brief silence? We all know that silences can be pretty awkward, and research shows that even short disruptions in conversational flow can lead to a sharp rise in distress levels. In movies, silences are often used to signal non-compliance or confrontation (Piazza, 2006). Some researchers even argue that 'silencing someone' is one of the most serious forms of exclusion. Group membership is of elementary importance to our well being and because humans are very sensitive to signals of exclusion, a silence is generally taken as a sign of rejection. In this way, a lack of flow in a conversation may signal that our relationship is not as solid as we thought it was.

Another aspect of synchrony is that people often try to validate their opinions to those of others. That is, people like to see others as having similar ideas or worldviews as they have themselves, because this informs people that they are correct and their worldviews are justified. One way in which people can justify their worldviews is by assuming that, as long as their conversations run smoothly,

their interaction partners probably agree with them. This idea was tested by researchers using video observations. Participants imagined being one out of three people in a video clip who had either a fluent conversation or a conversation in which flow was disrupted by a brief silence. Except tor the silence, the videos were identical After watching the video, participants were asked to what extent the people in the video agreed with each other. Participants who watched the fluent conversation rated agreement to be higher than participants watching the conversation that was disrupted by a silence, even though participants were not consciously aware of the disruption. It appears that the subjective feeling of being out of sync informs people of possible disagreements, regardless of the content of the conversation.

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

Synchrony

There is a human desire to co-ordinate **33**..... in an effort to be in harmony. This co-ordination can be seen in conversations when speakers alter the speed and extent of their speech in order to facilitate **34**..... . This is often achieved within milliseconds: only tiny pauses take place when a conversation flows; when it doesn't, there are **35**..... and silences, or people talk at the same time.

Our desire to **36**..... is also an important element of conversation flow. According to research, our **37**..... increase even if silences are brief. Humans have a basic need to be part of a group, and they experience a sense **38**..... if silences exclude them.

People also attempt to co-ordinate their opinions in conversation. In an experiment, participants' judgement of the overall **39**..... among speakers was tested using videos of a fluent and a slightly disrupted conversation. The results showed that the **40**..... of the speakers' discussion was less important than the perceived synchrony of the speakers.

PASSAGE 5

From the maze of conflicting statements and heated articles on the subject, three main positions about the potential of camera art emerged. The simplest, entertained by many painters and a section of the public, was that photographs should not be considered 'art' because they were made with a mechanical device and by physical and chemical phenomena instead of by human hand and spirit; to some, camera images seemed to have more in common with fabric produced by machinery in a mill than with handmade creations fired by inspiration. The second widely held view, shared by painters, some photographers, and some critics, was that photographs would be useful to art but should not be considered equal in creativeness to drawing and painting. Lastly, by assuming that the process was comparable to other 50 techniques such as etching and lithography, a fair number of individuals realized that camera images were or could be as significant as handmade works of art and that they might have a positive influence on the arts and on culture in general.

Complete the summary using the list of words, ***A-G,*** *below.*

A inventive	**C** beneficial	**E** mixed	**G** inferior
B similar	**D** next	**F** justified	

Camera art

In the early days of photography, opinions on its future were **31**..... , but three clear views emerged. A large number of artists and ordinary people saw photographs as **32**..... to paintings because of the way they were produced. Another popular view was that photographs could have a role to play in the art world, despite the photographer being less **33**..... . Finally, a smaller number of people suspected that the impact of photography on art and society could be **34**..... .

PASSAGE 6

In the last 14 years, the National Long-term Health Care Survey has gathered data on the health and lifestyles of more than 20,000 men and women over 65. Researchers, now analysing the results of data gathered in 1994, say arthritis, high blood pressure and circulation problems -the major medical complaints in this age group - are troubling a smaller proportion every year. And the data confirms that the rate at which these diseases are declining continues to accelerate. Other diseases of old age - dementia, stroke, arteriosclerosis and emphysema - are also troubling fewer and fewer people.

'It really raises the question of what should be considered normal ageing,' says Kenneth Manton, a demographer from Duke University in North Carolina. He says the problems doctors accepted as normal in a 65-year-old in 1982 are often not appearing until people are 70 or 75.

Clearly, certain diseases are beating a retreat in the face of medical advances. But there may be other contributing factors. Improvements in childhood nutrition in the first quarter of the twentieth century, for example, gave today's elderly people a better start in life than their predecessors.

On the downside, the data also reveals failures in public health that have caused surges in some illnesses. An increase in some cancers and bronchitis may reflect changing smoking habits and poorer air quality, say the researchers. 'These may be subtle influences,' says Manton, 'but our subjects have been exposed to worse and worse pollution for over 60 years. It's not surprising we see some effect.'

One interesting correlation Manton uncovered is that better-educated people are likely to live longer. For example, 65-year-old women with fewer than eight years of schooling are expected, on average, to live to 82. Those who continued their education live an extra seven years. Although some of this can be attributed to a higher income, Manton believes it is mainly because educated people seek more medical attention.

The survey also assessed how independent people over 65 were, and again found a striking trend. Almost 80% of those in the 1994 survey could complete everyday activities ranging from eating and dressing unaided to complex tasks such as cooking and managing their finances. That represents a significant drop in the number of disabled old people in the population. If the trends apparent in the United States 14 years ago had continued, researchers calculate there would be an additional one million disabled elderly people in today's population. According to Manton, slowing the trend has saved the United States government's Medicare system more than $200 billion,

suggesting that the greying of America's population may prove less of a financial burden than expected.

The increasing self-reliance of many elderly people is probably linked to a massive increase in the use of simple home medical aids. For instance, the use of raised toilet seats has more than doubled since the start of the study, and the use of bath seats has grown by more than 50%. These developments also bring some health benefits, according to a report from the MacArthur Foundation's research group on successful ageing. The group found that those elderly people who were able to retain a sense of independence were more likely to stay healthy in old age.

*Complete the summary using the list of words, **A-Q**. below.*

Research carried out by scientists has shown that the proportion of people over 65 suffering from the most common age-related medical problems is **14**..... and that the speed of this change is **15**..... . It also seems that these diseases ere affecting people **16**..... in life than they did in the past. This is largely due to developments in **17**..... , but other factors such as improved **18**..... may also be playing a part. Increases in some other illnesses may be due to changes in personal habits and to **19**..... The research establishes a link between levels of **20**..... and life expectancy. It also shows that there has been a considerable reduction in the number of elderly people who are **21**..... which means that the **22**..... involved in supporting this section of the population may be less than previously predicted.

A cost	**B** falling	**C** technology
D undernourished	**E** earlier	**F** later
G disabled	**H** more	**I** increasing
J nutrition	**K** education	**L** constant
M medicine	**N** pollution	**O** environment
P health	**Q** independent	

BÀI 6: TRUE - FALSE - NOT GIVEN

Dạng so sánh 2 thứ A và B trên phương diện C.

Ví dụ:

Trả lời True/False/Not Given.

1. Japan imports more meat and steel than France.
Passage:
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 meet and steel.

2. In experiments, rats who ate what they wanted led shorter lives than rats on a low-calorie diet.
Passage:
Scientists first recognized the value of the practice more than 60 years ago, when they found that rats fed a low-calorie diet lived longer on average than free-feeding rats and also had a reduced incidence of conditions that become increasingly common in old age.

3. There is a wider range of achievement amongst English pupils studying maths than amongst their Japanese counterparts.
Passage:
Large sample international comparisons of pupils attainments in maths 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.

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

5. International trade is increasing at a greater rate than the world economy.
Passage:
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.

6. People feel more strongly about language education than about small differences in language usage.
Passage:
Arguments can start as easily over minor points of usage as over major policies of linguistic education.

7. It is easier to manage a small business than a large business.
Passage:
For example, if the job is running a small business or an autonomous unit within a larger business, high achievers should be sought. However, if the job to be filled is a managerial post in a large bureaucratic organisation, a candidate who has a high need for power and a low need for affiliation should be selected.

8. Computers are better than humans at detecting faults.
Passage:
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.

9. In 1970s, illiterate women had approximately the same levels of infant mortality as those who had learnt to read in primary school.
Passage:
In the late 1970s, the infant mortality rate for the children of illiterate mothers was around 110 deaths per thousand live births. At this point in their lives, those mothers who later went on to learn to read had a similar level of child mortality (105/1000). For women educated in primary school, however, the infant mortality rate was significantly lower, at 80 per thousand.

10. People who talk less often have clearer ideas than those who talk a lot.
Passage:
Consequently, people who do not talk very easily may be incorrectly understood as being less agreeable than those who have no difficulty keeping up a conversation.

11. A shrinking organisation tends to lose its less skilled employees rather than its more skilled employees.
Passage:
When an organisation is shrinking, the best and most mobile workers are prone to leave voluntarily. Unfortunately, they are the ones the organisation can least afford to lose - those with the highest skills and experience. The minor employees remain because their job options are limited.

Bài 6b: Chiến thuật chung dạng True-False-Not Given

Ví dụ:

1. Several species of wildlife in the British countryside are declining.
Passage:
In Britain, for example, many of our best-loved farmland birds, such as the skylark, the grey partridge, the lapwing and the corn bunting, have vanished from huge stretches of countryside, as have even more wild flowers and insects.

2. Prior to the start of MIRTP the Makete district was almost inaccessible during the rainy season.
Passage:
When the project began, Makete District was virtually totally isolated during the rainy season.

3. Our ability to deal with a lot of input material has improved over time.
Passage:
However, the fact that we are accustomed to processing large amounts of information does not mean that we are better at it.

4. The trees from which quinine is derived grow only in South America.
Passage:
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.

5. It is always difficult to determine where an animal lived when its fossilised remains are incomplete.

Passage:

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.

6. Alien civilisations may be able to help the human race to overcome serious problems.

Passage:

It is even possible that the alien 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.

7. Iconoclasts are unusually receptive to new experiences.

Passage:

Observation of iconoclasts shows that they embrace novelty while most people avoid things that are different.

8. Consumers prefer theme parks which avoid serious issues.

Passage:

Theme parks are undergoing other changes, too, as they try to present more serious social and cultural issues, and move away from fantasy. This development is a response to market forces.

9. Most countries continue to prefer to trade with nearby nations.

Passage:

Countries still trade disproportionately with their geographic neighbours.

10. The Lumiere Brothers' film about the train was one of the greatest films ever made.

Passage:

One of the Lumiere Brothers' earliest films was a 30-second piece which showed a section of a railway platform flooded with sunshine. A train appears and heads straight for the camera. And that is all that happens. Yet the Russian director Andrei Tarkovsky, one of the greatest of all film artists, described the film as a 'work of genius'.

11. The ISTP study examined public and private systems in every city of the world.
Passage:
A new study conducted for the World Bank by Murdoch University's Institute for Science and Technology Policy (ISTP) has demonstrated that public transport is more efficient than cars. The study compared the proportion of wealth poured into transport by thirty-seven cities around the world. This included both the public and private costs of building, maintaining and using a transport system.

12. Storylines were important in very early cinema.
Passage:
Cinema has also given a new lease of life for the idea of the story. When the Lumiere Brothers and other pioneers began cinema, it was by no means obvious how it would be used. All that mattered at first was the wonder of movement.

13. Marie stopped doing research for several years when her children were born.
Passage:
The births of Marie's two daughters, Irene and Eve, in 1897 and 1904 failed to interrupt her scientific work.

14. It is legitimate for drug companies to make money.
Passage:
In the end the fact remains that pharmaceutical companies have every right to make a profit and will continue to find new ways to increase sales.

15. Air Traffic Control started after the Grand Canyon crash in 1956.
Passage:
Rudimentary air traffic control (ATC) existed well before the Grand Canyon disaster.

16. Teachers mark homework in Japanese schools.
Passage:
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 the future.

17. A number of pests are now born with an innate immunity to some pesticides.
Passage:
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.

18. Taxonomic research involves comparing members of one group of ants.
Passage:
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.

19. In the follow-up class, the teaching activities are similar to those used in conventional classes.
Passage:
Some hours after the two-part session, there is a follow-up class at which the students are stimulated to recall the material presented. Once again the approach is indirect. The students do not focus their attention on trying to remember the vocabulary, but focus on using the language to communicate (e.g. through games or improvised dramatisations). Such methods are not unusual in language teaching.

20. The Hanshin earthquake of 1995 destroyed the pagoda at the Toji temple.
Passage:
The disastrous Hanshin earthquake in 1995 killed 6,400 people, toppled elevated highways, flattened office blocks and devastated the port area of Kobe. Yet it left the magnificent five-storey pagoda at the Toji temple in nearby Kyoto unscathed, though it levelled a number of buildings in the neighbourhood.

21. Phase I of MIRTP consisted of a survey of household expenditure on transport.
Passage:
Little was known about the transport demands of the rural households, so Phase I, between December 1985 and December 1987, focused on research. The socio-economic survey of more than 400 households in the district indicated that a household in Makete spent, on average, seven hours a day on transporting themselves and their goods, a figure which seemed extreme but which has also been obtained in surveys in other rural areas in Africa.

22. Doctors make decisions according to the symptoms that a patient describes.
Passage:
We are constantly required to process a wide range of information to make decisions. Sometimes, these decisions are trivial, such as what marmalade to buy. At other times, the stakes are higher, such as deciding which symptoms to report to the doctor.

23. Fear of public speaking is a psychological illness.
Passage:
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.

24. Scientists have concluded that we try to take in as much detail as possible from our surroundings.
Passage:
Drawing from change blindness research, scientists have come to the conclusion that we perceive the world in much less detail than previously thought. Rather than monitoring all of the visual details that surround us, we seem to focus our attention only on those features that are currently meaningful or important, ignoring those that are irrelevant to our current needs and goals.

25. Some ants within a colony have leadership roles.
Passage:
Ants are not intelligent by themselves. Yet as a colony, they make wise decisions. And as Gordon discovered during her research, there's no one ant making decisions or giving orders.

PASSAGE 1

It has always been a mystery how the bridge was built. Despite its pioneering technology, no eye-witness accounts are known which describe the iron bridge being erected - and certainly no plans have survived. However, recent discoveries, research and experiments have shed new light on exactly how it was built, challenging the assumptions of recent decades. In 1997 a small watercolour sketch by Elias Martin came to light in the Swedish capital, Stockholm. Although there is a wealth of early views of the bridge by numerous artists, this is the only one which actually shows it under construction.

Up until recently it had been assumed that the bridge had been built from both banks, with the inner supports tilted across the river. This would have allowed river traffic to continue unimpeded during construction. But the picture clearly shows sections of the bridge being raised from a barge in the river. It contradicted everything historians had assumed about the bridge, and it was even considered that the picture could have been a fake as no other had come to light. So in2001 a half-scale model of the bridge was built, in order to see if it could have been constructed in the way depicted in the watercolor. Meanwhile, a detailed archaeological, historical and photographic survey was done by the Iron bridge Gorge Museum Trust, along with a 3DCAD (computer-aided-design) model by English Heritage.

TRUE

FALSE

NOT GIVEN

32. There is no written evidence of how the original bridge was constructed.

33. The painting by Elias Martin is the only one of the bridge when it was new.

34. The painting shows that the bridge was constructed from the two banks.

35. The original bridge and the model took equally long to construct.

PASSAGE 2

We spend a large part of our daily life talking with other people and, consequently, we are very accustomed to the art of conversing. But why do we feel comfortable in conversations that have flow, hut get nervous and distressed when a conversation is interrupted by unexpected silences? To answer this question we will first look at some of the effects of conversational flow. Then we will explain how flow can serve different social needs.

The positive consequences of conversational flow show some similarities with the effects of processing fluency.' Research has shown that processing fluency - the ease with which people process information - influences peoples judgments across a broad range of social dimensions. For instance, people feel that when something is easily processed, it is more true or accurate. Moreover, they have more confidence in their judgments regarding information that came to them fluently, and they like things that are easy to process more than things that are difficult to process. Research indicates that a speaker is judged to be more knowledgeable when they answer questions instantly; responding with disfluent speech markers such as 'uh' or 'um' or simply remaining silent for a moment too long can destroy that positive image.

YES
NO
NOT GIVEN

27. Conversation occupies much of our time.

28. People assess information according to how readily they can understand it.

29. A quick response to a question is thought to show a lack of knowledge.

PASSAGE 3

As researchers on aging noted recently, no treatment on the market today has been proved to slow human aging - the build-up of molecular and cellular damage that increases vulnerability to infirmity as we grow older. But one intervention, consumption of a low-calorie* yet nutritionally balanced diet, works incredibly well in a broad range of animals, increasing longevity and prolonging good health. Those findings suggest that caloric restriction could delay aging and increase longevity in humans, too.

Unfortunately, for maximum benefit, people would probably have to reduce their caloric intake by roughly thirty per cent, equivalent to dropping from 2,500 calories a day to 1, 750. Few mortals could stick to chat harsh a regimen, especially for years on end. But what if someone could create a pill that mimicked the physiological effects of eating less without actually forcing people to eat less? Could such a 'caloric-restriction mimetic', as we call it, enable people to stay healthy longer, postponing age-related disorders (such as diabetes, arteriosclerosis, heart disease and cancer) until very lace in life? Scientists first posed this question in the mid-1990s, after researchers came upon a chemical agent that in rodents seemed to reproduce many of caloric restriction's benefits. No compound that would safely achieve the same feat in people has been found yet, but the search has been informative and has fanned hope that caloric-restriction (CR) mimetics can indeed be developed eventually.

YES if the statement t 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

28. Studies show drugs available today can delay the process of growing old.

29. There is scientific evidence that eating fewer calories may extend human life.

30. Not many people are likely to find a caloric-restricted diet attractive.

31. Diet-related diseases are common in older people.

PASSAGE 4

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 mollusks. 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 tones of ground fish (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 Fact book, 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 spankers" 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 arc 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 $US260 million.

Catches have not always been so healthy. Between 1940 and 1959, over fishing 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 totaled 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, and on several occasions over 200 million fish.

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.

PASSAGE 5

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

Since boyhood Shirase had dreamed of becoming a polar explorer. Like Amundsen, he initially set his sights on the North Pole. But after the American Robert Peary claimed to have reached it; in 1909, both men hastily altered them plans. Instead they would aim for the last big prize: the South Pole. In January 1910, Shirase put his plans before Japanese government officials, promising to raise the flag at the South Pole within three years. For many of them, the question wasn't could he do it but why would it be worth doing? 15 years earlier the International Geographical Congress had said that as the last unknown continent the Antarctic offered the chance to add to knowledge in almost every branch of science. So, like the British, Shirase presented his expedition as a search for knowledge: he would bring back fossils, make meteorological measurements and explore unknown parts of the continent.

The response from the government was cool, however, and Shirase struggled to raise funds. Fortunately, a few months later, Japan's former prime minister Shigenobu Okuma came to Shirase’s rescue. With Okuma’s backing. Shirase got together just enough money to buy and equip a small ship. He eventually acquired a scientist, too, called Terutaro Takeda. At the end of November 1910, his ship the Kainan Maru finally left Tokyo with 27 men and 28 Siberian dogs on board. Before leaving, Shirase confidently outlined his plans to the media. He would sail to New Zealand, then reach Antarctica in February, during the southern summer, and then proceed to the pole the following spring. This was not to be, however. Bad weather delayed the expedition and they didn't reach New Zealand until 8 February; Amundsen and Scott had already been in Antarctica for a month, preparing for winter.

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

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

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

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

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

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

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

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

PASSAGE 6

A new study conducted for the World Bank by Murdoch University's Institute for Science and Technology Policy (ISTP) has demonstrated that public transport is more efficient than cars. The study compared the proportion of wealth poured into transport by thirty-seven cities around the world. This included both the public and private costs of building, maintaining and using a transport system.

The study found that the Western Australian city of Perth is a good example of a city with minimal public transport. As a result, 17% of its wealth went into transport costs. Some European and Asian cities, on the other hand, spent as little as 5%. Professor Peter Newman, ISTP Director, pointed out that these more efficient cities were able to put the difference into attracting industry and jobs or creating a better place to live.

According to Professor Newman, the larger Australian city of Melbourne is a rather unusual city in this sort of comparison. He describes it as two cities: ‘A European city surrounded by a car-dependent one’. Melbourne's large tram network has made car use in the inner city much lower, but the outer suburbs have the same car-based structure as most other Australian cities. The explosion in demand for accommodation in the inner suburbs of Melbourne suggests a recent change in many people's preferences as to where they live.

Newman says this is a new, broader way of considering public transport issues. In the past, the case for public transport has been made on the basis of environmental and social justice considerations rather than economics. Newman, however, believes the study demonstrates that ‘the auto-dependent city model is inefficient and grossly inadequate in economic as well as environmental terms’.

Bicycle use was not included in the study but Newman noted that the two most ‘bicycle friendly’ cities considered - Amsterdam and Copenhagen - were very efficient, even though their public transport systems were ‘reasonable but not special’.

It is common for supporters of road networks to reject the models of cities with good public transport by arguing that such systems would not work in their particular city. One objection is climate. Some people say their city could not make more use of public transport because it is either too hot or too cold. Newman rejects this, pointing out that public transport has been successful in both Toronto and Singapore and, in fact, he has checked the use of cars against climate and found ‘zero correlation’.

TRUE
FALSE
NOT GIVEN

6. The ISTP study examined public and private systems in every city of the world.

7. Efficient cities can improve the quality of life for their inhabitants.

8. An inner-city tram network is dangerous for car drivers.

9. In Melbourne, people prefer to live in the outer suburbs.

10. Cities with high levels of bicycle usage can be efficient even when public transport is only averagely good.

PASSAGE 7

One of the first great intellectual feats of a young child is learning how to talk, closely followed by learning how to count. From earliest childhood we are so bound up with our system of numeration that it is a feat of imagination to consider the problems faced by early humans who had not yet developed this facility. Careful consideration of our system of numeration leads to the conviction that, rather than being a facility that comes naturally to a person, it is one of the great and remarkable achievements of the human race.

It is impossible to learn the sequence of events that led to our developing the concept of number. Even the earliest of tribes had a system of numeration that, if not advanced, was sufficient for the tasks that they had to perform. Our ancestors had little use for actual numbers; instead their considerations would have been more of the kind *Is this enough?* rather than *How many?* when they were engaged in food gathering, for example. However, when early humans first began to reflect on the nature of things around them, they discovered that they needed an idea of number simply to keep their thoughts in order. As they began to settle, grow plants and herd animals, the need for a sophisticated number system became paramount. It will never be known how and when this numeration ability developed, but it is certain that numeration was well developed by the time humans had formed even semi-permanent settlements.

Evidence of early stages of arithmetic and numeration can be readily found. The indigenous peoples of Tasmania were only able to count *one, two, many*; those of South Africa counted *one, two, two and one, two twos, two twos and one*, and so on. But in real situations the number and words are often accompanied by gestures to help resolve any confusion. For example, when using the *one, two, many* type of system, the word *many* would mean, *Look at my hands and see how many fingers I am showing you*. This basic approach is limited in the range of numbers that it can express, but this range will generally suffice when dealing with the simpler aspects of human existence.

The lack of ability of some cultures to deal with large numbers is not really surprising. European languages, when traced back to their earlier version, are very poor in number words and expressions. The ancient Gothic word for ten, *tachund*, is used to express the number 100 as *tachund tachund*. By the seventh century, the word *teon* had become interchangeable with the *tachund* or *hund* of the Anglo-Saxon language, and so 100 was denoted as *hund teontig*, or ten times ten. The average person in the seventh century in Europe was not as familiar with numbers as we are today. In fact, to qualify as a witness in a court of law a man had to be able to count to nine!

Perhaps the most fundamental step in developing a sense of number is not the ability to count, but rather to see that a number is really an abstract idea instead of a simple attachment to a group of particular objects. It must have been within the grasp of the earliest humans to conceive that four birds are distinct from two birds; however, it is not an elementary step to associate the number 4, as connected with four birds, to the number 4, as connected with four rocks. Associating a number as one of the qualities of a specific object is a great hindrance to the development of a true number sense. When the number 4 can be registered in the mind as a specific word, independent of the object being referenced, the individual is ready to take the first step toward the development of a notational system for numbers and, from there, to arithmetic.

Traces of the very first stages in the development of numeration can be seen in several living languages today. The numeration system of the Tsimshian language in British Columbia contains seven distinct sets of words for numbers according to the class of the item being counted: for counting flat objects and animals, for round objects and time, for people, for long objects and trees, for canoes, for measures, and for counting when no particular object is being numerated. It seems that the last is a later development while the first six groups show the relics of an older system. This diversity of number names can also be found in some widely used languages such as Japanese.

Intermixed with the development of a number sense is the development of an ability to count. Counting is not directly related to the formation of a number concept because it is possible to count by matching the items being counted against a group of pebbles, grains of corn, or the counter's fingers. These aids would have been indispensable to very early people who would have found the process impossible without some form of mechanical aid. Such aids, while different, are still used even by the most educated in today's society due to their convenience. All counting ultimately involves reference to something other than the things being counted. At first it may have been grains or pebbles but now it is a memorised sequence of words that happen to be the names of the numbers.

TRUE
FALSE
NOT GIVEN

32. For the earliest tribes, the concept of sufficiency was more important than the concept of quantity.

33. Indigenous Tasmanians used only four terms to indicate numbers of objects.

34. Some peoples with simple number systems use body language to prevent misunderstanding of expressions of number.

35. All cultures have been able to express large numbers clearly.

36. The word 'thousand' has Anglo-Saxon origins.

37. In general, people in seventh-century Europe had poor counting ability.

38. In the Tsimshian language, the number for long objects and canoes is expressed with the same word.

39. The Tsimshian language contains both older and newer systems of counting.

40. Early peoples found it easier to count by using their fingers rather than a group of pebbles.

PASSAGE 8

A The history of human civilization is entwined with the history of ways we have learned to manipulate water resources. As towns gradually expanded, water was brought from increasingly remote sources, leading to sophisticated engineering efforts such as dams and aqueducts. At the height of the Roman Empire, nine major systems, with an innovative layout of pipes and well-built sewers, supplied the occupants of Rome with as much water per person as is provided in many parts of the industrial world today.

B During the industrial revolution and population explosion of the 19th and 20th centuries, the demand for water rose dramatically. Unprecedented construction of tens of thousands of monumental engineering projects designed to control floods, protect clean water supplies, and provide water for irrigation and hydropower brought great benefits to hundreds of millions of people. Food production has kept pace with soaring populations mainly because of the expansion of artificial irrigation system that make possible the growth of 40% of the world's food. Nearly one fifth of all the electricity generated worldwide is produced by turbines spun by the power of falling water.

C Yet there is a dark side to this picture: despite our progress, half of the world's population still suffers, with water services inferior to those available to the ancient Greeks and Romans. As the United Nations report on access to water reiterated in November 2001, more than one billion people lack access to clean drinking water: some two and half billion do not have adequate sanitation services. Preventable water-related diseases kill an estimated 10,000 to 20,000 children every day, and the latest evidence suggests that we are falling behind in efforts to solve their problems.

D The consequences of our water policies extend beyond jeopardizing human health. Tens of millions of people have been forced to move from their homes - often with little warning or compensation - to make way for the reservoirs behind dams. More than 20% of all freshwater fish species are now threatened or endangered because dams and water withdrawals have destroyed the free-flowing river ecosystems where they thrive. Certain irrigation practices degrade soil quality and reduce agricultural productivity. Groundwater aquifers* are being pumped down faster than they are naturally replenished in part of India, China, the USA and elsewhere. And disputes over shared water resources have led to violence and continue to raise local, national and even international tensions.

E At the outset of the new millennium, however, the way resource planners think about water is beginning to change. The focus is slowly shifting back to the provision of basic human and environmental needs as top priority - ensuring 'some for all,' instead of 'more for some'. Some water experts are now demanding that existing infrastructure be used in smarter ways rather than building new facilities, which is increasingly considered the option of last, not first, resort. This shift in philosophy has not been universally accepted, and it comes with strong opposition from some established water organizations. Nevertheless, it may be the only way to address successfully the pressing problems of providing everyone with clean water to drink, adequate water to grow food and a life free from preventable water-related illness.

F Fortunately - and unexpectedly - the demand for water is not rising as rapidly as some predicted. As a result, the pressure to build now water infrastructures has diminished over the past two decades. Although population, industrial output and economic productivity have continued to soar in developed nations, the rate at which people withdraw water from aquifers, rivers and lacks has slowed. And in a few parts of the world, demand has actually fallen.

G What explains this remarkable turn of events? Two factors: people have figured out how to use water more efficiently, and communities are rethinking their priorities for water use. Throughout the first three-quarters of the 20th century, the quantity of freshwater consumed per person doubled on average; in the USA, water withdrawals increased tenfold while the population quadrupled. But since 1980, the amount of water consumed per person has actually decreased, thanks to a range of new technologies that help to conserve water in homes and industry. In 1965, for instance, Japan used approximately 13 million gallons* of water to produce $1 million of commercial output; by 1989 this had dropped to 3.5 million gallons (even accounting for inflation) - almost a quadrupling of water productivity. In the USA, water withdrawals have fallen by more than 20% from their peak in 1980.

H On the other hand, dams, aqueducts and other kinds of infrastructure will still have to be built, particularly in developing countries where basic human needs have not been met. But such projects must be built to higher specifications and with more accountability to local people and their environment then in the past. And even in regions where new projects seem warranted, we must find ways to meet demands with fewer resources, respecting ecological criteria and to smaller budget.

YES
NO
NOT GIVEN

21. Water use per person is higher in the industrial world than it was in Ancient Rome.

22. Feeding increasing populations is possible due primarily to improved irrigation systems

23. Modern water systems imitate those of the ancient Greeks and Romans.

24. Industrial growth is increasing the overall demand for water.

25. Modern technologies have led to reduction in the domestic water consumption.

26. In the future, governments should maintain ownership of water infrastructures.

PASSAGE 9

The timbers that closed the recovered end of the boat had been removed in antiquity when it was abandoned, but much about its original shape could be deduced. There was also evidence for missing upper side planks. The boat was not a wreck, hut had been deliberately discarded, dismantled and broken. Perhaps it had been ritually killed' at the end of its life, like other Bronze-Age objects.

With hindsight, it was significant that the boat was round and studied by mainstream archaeologists who naturally focused on its cultural context. At the time, ancient boats were often considered only from a narrower technological perspective, but news about the Dover boat reached a broad audience. In 2002, on the tenth anniversary of the discovery, the Dover Bronze-Age Boat Trust hosted a conference, where this meeting of different traditions became apparent. Alongside technical papers about the boat, other speakers explored its social and economic contexts and the religious perceptions of boats in Bronze-Age societies. Many speakers came from overseas, and debate about cultural connections was renewed.

Within seven years of excavation, the Dover boat had been conserved and displayed, but it was apparent that there were issues that could not be resolved simply by studying the old wood. Experimental archaeology seemed to be the solution: a boat reconstruction, half-scale or full-sized, would permit assessment of the different hypotheses regarding its build and the missing end. The possibility of returning to Dover to search for the boat's excavated northern end was explored, but practical and financial difficulties were insurmountable — and there was no guarantee that the limbers had survived the previous decade in the changed environment.

Detailed proposals to reconstruct the boat were drawn up in 2004. Archaeological evidence was beginning to suggest a Bronze-Age community straddling the Channel, brought together by the sea, rather than separated by it. in a region today divided by languages and borders, archaeologists had a duty to inform the general public about their common cultural heritage.

TRUE
FALSE
NOT GIVEN

6. Archaeologists realised that the boat had been damaged on purpose.

7. Initially, only the technological aspects of the boat were examined.

8. Archaeologists went back to the site to try and find the missing northern end of the boat.

9. Evidence found in 2004 suggested that the Bronze-Age Boat had been used for trade.

BÀI 7: MULTIPLE CHOICE

Các ví dụ:

1. The book *Educating Psyche* is mainly concerned with
A. the power of suggestion in learning
B. a particular technique for learning based on emotions
C. the effects of emotion on the imagination and the unconscious
D. ways of learning which are not traditional
Passage:
Educating Psyche by Bernie Neville is a book which looks at new approaches to learning, describing the effects of emotion, imagination and the unconscious on learning. One theory discussed in the book is that proposed by George Lozanov, which focuses on the power of suggestion.

2. The storeys of a Japanese pagoda are
A. linked only by wood
B. fastened only to the central pillar
C. fitted loosely on top of each other
D. joined by special weights
Passage:
In other words, a five-storey pagoda contains not even one pillar that travels right up through the building to carry the structural loads from the top to the bottom. More suprising is the fact that the individual storeys of a Japanese pagoda, unlike their counterparts elsewhere, are not actually connected to each other. They are simply stacked one on top of another like a pile of hats.

3. 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
Passage:
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.

4. 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 group raise funds
D. environmental groups can exaggerate their claims

Passage:

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%.

5. The writer says that in preparing exhibits for museums, experts
A. should pursue a single objective.
B. have to do a certain amount of language translation.
C. should be free from commercial constraints.
D. have to balance conflicting priorities.

Passage:

However, exhibits must be both based on artefacts and facts as we know them, and attractively presented. Those who are professionally engaged in the art of interpreting history are thus in a difficult position, as they must steer a narrow course between the demands of 'evidence' and 'attractiveness', especially given the increasing need in the heritage industry for income-generating activities.

6. In Tarkovsky's opinion, the attraction of the cinema is that it
A. aims to impress its audience
B. tells stories better than books
C. illustrates the passing of time
D. describes familiar events

Passage:

Film has never lost its unique power to embrace its audiences and transport them to a different world. For Tarkovsky, the key to that magic was the way in which cinema created a dynamic image of the real flow of events.

7. Lozanov claims that teachers should train students to
A. memorise details of the curriculum.
B. develop their own sets of indirect instructions.
C. think about something other than the curriculum content.
D. avoid overloading the capacity of the brain.

Passage:
Lozanov therefore made indirect instruction (suggestion) central to his teaching system. In suggestopedia, as he called his method, consciousness is shifted away from the curriculum to focus on something peripheral.

8. What public views about artists was shared by the French and the English?
A. that only artists could reflect a culture's true values
B. that only artists were qualified to judge photography
C. that artists could lose work as a result of photography
D. that artistic success raised a country's international profile.

Passage:
Discussion of the role of photography in art was especially spirited in France, where the internal policies of the time had created a large pool of artists, but it was also taken up by important voices in England. In both countries, public interest in this topic was a reflection of the belief that national stature and achievement in the arts were related.

9. 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

Passage:
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.

PASSAGE 1

Bramley College now has full electronic information resources in the College Library to help you in your studies. On CD-ROM in the library we have about fifty databases, including many statistical sources. Want to know the average rainfall in Tokyo or the biggest export earner of Vanuatu? It's easy to find out. Whether you are in the School of Business or the School of Art & Design, it's all here for you.

You can conduct your own CD-ROM search for no charge, and you can print out your results on the library printers using your library photocopying card. Alternatively, you can download your results to disk, again for no charge, but bring your own formatted floppy disk or CD-ROM. If you are not sure how to conduct a search for yourself, library staff can do it for you, but we charge $20 for this service, no matter how long or how short a time it takes.

All library workstations have broadband access to the Internet, so you can find the web-based information you need quickly and easily If you are unfamiliar with using the Internet, help is available in several ways. You can start with the online tutorial Netstart; just click on the Netstart Icon on the Main Menu. The tutorial will take you through the basic steps to using the Internet, at any time convenient to you. If you prefer, ask one of the librarians for internet advice (best at quiet times between 9.00am and 11.30am weekdays) or attend one of the introductory group sessions that are held in the first two weeks of each term. Sign your name on the list on the Library Bulletin Board to guarantee a place, as they are very popular.

A word of warning: demand for access to library workstations is very high, so you are strongly advised to book a workstation, and we have to limit your use to a maximum of one hour at any one time. Make your booking (for which you will receive a receipt) at the information Desk or at the enquiry desks in the Media Services Area (Level 1). Also, use of the computers is limited to Bramley students only, so you may be asked to produce your Student Identification Card to make a booking, or while using the workstations.

22. To use the library printers, students must have

A. a floppy disk
B. correct change in coins
C. a photocopying card
D. their own paper

23. To copy search results to a floppy disk, students pay

A. $20
B. no fee
C. a fee based on actual costs
D. a fee dependent on the time taken

24. If library staff search for information on CD-ROM, students pay

A. $20
B. no fee
C. a fee based on actual costs
D. a fee dependent on the time taken

25. Students can learn to use the Internet

A. at all times
B. in the first two weeks of term only
C. Monday to Friday only
D. between 9.00am and 11.30am only

26. To ensure efficient access to the library work stations, students should

A. queue to use a workstation in the Media Services Area
B. reserve a time to use a workstation
C. work in groups on one workstation
D. conduct as many searches as possible at one time

27. At any one time, students may use a library workstation for

A. half an hour
B. one hour
C. two hours
D. an unlimited time

PASSAGE 2

A Bullying can take a variety of forms, from the verbal -being taunted or called hurtful names- to the physical- being kicked or shoved- as well as indirect forms, such as being excluded from social groups. A survey I conducted with Irene Whitney found that in British primary schools up to a quarter of pupils reported experience of bullying, which in about one in ten cases was persistent. There was less bullying in secondary schools, with about one in twenty-five suffering persistent bullying, but these cases may be particularly recalcitrant.

B Bullying is clearly unpleasant, and can make the child experiencing it feel unworthy and depressed. In extreme cases it can even lead to suicide, though this is thankfully rare. Victimised pupils are more likely to experience difficulties with interpersonal relationships as adults, while children who persistently bully are more likely to grow up to be physically violent, and convicted of anti-social offences.

C Until recently, not much was known about the topic, and little help was available to teachers to deal with bullying. Perhaps as a consequence, schools would often deny the problem. 'There is no bullying at this school' has been a common refrain, almost certainty untrue. Fortunately more schools are now saying: There is not much bullying here, but when it occurs we have a clear policy for dealing with it.'

D Three factors are involved in this change. First is an awareness of the severity of the problem. Second, a number of resources to help tackle bullying have become available in Britain. For example, the Scottish Council for Research in Education produced a package of materials, Action Against Bullying, circulated to all schools in England and Wales as well as in Scotland in summer 1992, with a second pack, Supporting Schools Against Bullying, produced the following year. In Ireland, Guidelines on Countering Bullying Behaviour in Post-Primary Schools was published in 1993. Third, there is evidence that these materials work, and that schools can achieve something. This comes from carefully conducted 'before and after I evaluations of interventions in schools, monitored by a research team. In Norway, after an intervention campaign was introduced nationally, an evaluation of forty-two schools suggested that, over a two-year period, bullying was halved. The Sheffield investigation, which involved sixteen primary schools and seven secondary schools, found that most schools succeeded in reducing bullying.

31. A recent survey found that in British secondary schools

A. there was more bullying than had previously been the case.
B. there was less bullying than in primary schools.
C. cases of persistent bullying were very common.
D. indirect forms of bullying were particularly difficult to deal with.

32. Children who are bullied

A. are twice as likely to commit suicide as the average person.
B. find it more difficult to relate to adults.
C. are less likely to be violent in later life.
D. may have difficulty forming relationships in later life.

33. The writer thinks that the declaration 'There is no bullying at this school'

A. is no longer true in many schools.
B. was not in fact made by many schools.
C. reflected the school's lack of concern.
D. reflected a lack of knowledge and resources.

34. What were the findings of research carried out in Norway?

A. Bullying declined by 50% after an anti-bullying campaign.
B. Twenty-one schools reduced bullying as a result of an anti-bullying campaign
C. Two years is the optimum length for an anti-bullying campaign.
D. Bullying is a less serious problem in Norway than in the UK.

PASSAGE 3

C Traditional ways of teaching form the basis of the lesson and the remarkably quiet classes take their owe 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 lass 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 lasses, may be unfair and unjustified. No poor maths lessons were observed. They were mainly good and one or two were inspirational.

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

PASSAGE 4

A The conviction that historical relics provide infallible testimony about the past is rooted in the nineteenth and early twentieth centuries, when science was regarded as objective and value free. As one writer observes: 'Although it is now evident that artifacts are as easily altered as chronicles, public faith in their veracity endures: a tangible relic seems ipso facto real! Such conviction was, until recently, reflected in museum displays. Museums used to look — and some still do — much like storage rooms of objects packed together in showcases: good for scholars who wanted to study the subtle differences in design, but not for the ordinary visitor. to whom lt all looked alike. Similarly, the information accompanying the objects often made little sense to the lay visitor. The content and format of explanations dated back to a time when the museum was the exclusive domain of the scientific researcher.

B Recently, however, attitudes towards history and the way it should be presented have altered. The key word in heritage display is now 'experience the more exciting the better and, if possible, involving all the senses. Good examples of this approach in the UK are the Jorvik Centre in York; the National Museum of Photography, Elm and Television in Bradford; and the imperial War Museum in London. In the US the trend emerged much earlier. Williamsburg has been a prototype for many heritage developments in other parts of the world. No one can predict where the process will end. On so called heritage sites the re-enactment of historical events is increasingly popular, and computers will soon provide virtual reality experiences, which will present visitors with a vivid image of the period of their choice, in which they themselves can act as if part of the historical environment. Such developments have been criticised as an intolerable vulgarisation. but the success of many historical theme parks and similar locations suggests that the majority of the public does not
share this opinion.

C In a related development, the sharp distinction between museum and heritage sites on the one hand, and theme parks on the other, is gradually evaporating. They already borrow ideas and concepts from one another. For example, museums have adopted storylines for exhibitions, sites have accepted 'theming’ as a relevant tool, and theme parks are moving towards more authenticity and research-based presentations in zoos, animals are no longer kept in cages, but in great spaces, either in the open air or in enormous greenhouses, such as the jungle and desert environments .In Burgers' Zoo In Holland. This particular trend is regarded as one of the major developments in the presentation of natural history in the twentieth century.

D Theme parks are undergoing other changes, too, as they try to present more serious social and cultural issues, and move away from fantasy. This development is a response to market forces and, although museums and heritage sites have a special. rather distinct, role to fulfill, they are also operating in a very competitive environment, where visitors make choices on how and where to spend their free time. Heritage and museum experts do not have to invent stories and recreate historical environments to attract their visitors: their assets are already in place. However, exhibits must be both based on artefacts and facts as we know them, and attractively presented. Those who are professionally engaged in the art of interpreting history are thus in a difficult position, as they must steer a narrow course between the demands of ’evidence' and ‘attractiveness especially given the increasing need in the heritage industry for income generating activities.

E It could be claimed that in order to make everything in heritage more `real` historical accuracy must be increasingly altered. For example, Pithecanthropus erectus is depicted in an Indonesian museum with Malay facial features, because this corresponds to public perceptions. Similarly, in the Museum of Natural History in Washington, Neanderthal man is shown making a dominant gesture to his wife. Such presentations tell us more about contemporary perceptions of the world than about our ancestors. There is one compensation, however, for the professionals who make these interpretations: If they did not provide the interpretation, visitors would do it for themselves based on their own ideas, misconceptions and prejudices. And no matter how exciting the result, it would contain a lot more bias than the presentations provided by experts.

F Human bias is inevitable, but another source of bias in the representation of history has to do with the transitory nature of the materials themselves. The simple fact is that not everything from history survives the historical process. Castles, palaces and cathedrals have a longer lifespan than the dwellings of ordinary people. The same applies to the famishing and other contents of the premises. In a town like Leyden in Holland, which in the seventeenth century was occupied by approximately the same number of inhabitants as today, people lived within the walled town, an area more than five times smaller than modern Leyden. In most of the houses several families lived together in circumstances beyond our imagination. Yet in museums, line period rooms give only an image of the lifestyle of the upper class of that era. No wonder that people who stroll around exhibitions are filled with nostalgia; the evidence in museums indicates that life was so much better in the past. This notion is induced by the bias in its representation in museums and heritage centers.

31. Compared with today's museums those of the past
A. did not present history in a detailed way.
B. were not primarily intended for the public.
C. were more clearly organized.
D. preserved items with greater care.

32. According to the writer, current trends in the heritage industry
A. emphasize personal involvement.
B. have their origins in York and London,
C. rely on computer images.
D. reflect minority tastes.

33. The writer says that museums, heritage sites and theme parks
A. often work in close partnership.
B. try to preserve separate identities.
C. have similar exhibits.
D. are less easy to distinguish than before.

34. The writer says that in preparing exhibits for museums, experts
A. should pursue a single objective.
B. have to do a certain amount of language translation.
C. should be free from commercial constraints.
D. have to balance conflicting priorities.

35. In paragraph E, the writer suggests that some museum exhibits
A. fall to match visitor expectations.
B. are based on the false assumptions of professionals.
C. reveal more about present beliefs than about the past.
D. allow visitors to make more use of their imagination.

36. The passage ends by noting that our view of history is biased because
A. we fail to use our imagination.
B. only very durable objects remain from the past.
C. we tend to ignore things that displease us.
D. museum exhibits focus too much on the local area.

PASSAGE 5

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'. Became 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.

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.

BÀI 8: MATCHING

PASSAGE 1

D What is the potential for robots and computers in the near future? 'The fact is we still have a way to go before real robots catch up with their science fiction counterparts.' Gates says. So what are the stumbling blocks? One key difficulty is getting robots to know their place. This has nothing to do with class or etiquette, but concerns the simple issue of positioning. Humans orient themselves with other objects in a room very easily. Robots find the task almost impossible. 'Even something as simple as telling the difference between an open door and a window can be tricky tor a robot,' says Gates. This has, until recently, reduced robots to fairly static and cumbersome roles.

E For a long time, researchers tried to get round the problem by attempting to re-create the visual processing that goes on in the human cortex. However, that challenge has proved to be singularly exacting and complex. So scientists have turned to simpler alternatives: 'We have become far more pragmatic in our work,' says Nello Cristianini, Professor of Artificial Intelligence at the University of Bristol in England and associate editor of the journal of Artificial Intelligence Research,' We are no longer trying to re-create human functions. Instead, we are looking for simpler solutions with basic electronic sensors, for example.' This approach is exemplified by vacuuming robots such as the Electrolux Trilobite. The Trilobite scuttles around homes emitting ultrasound signals to create maps of rooms, which are remembered for future cleaning. Technology like this is now changing the face of robotics, says philosopher Ron Chrisley, director of the Centre for Research in Cognitive Science at the University of Sussex in England.

F Last year, a new Hong Kong restaurant, Robt Kitchen, opened with a couple of sensor-laden humanoid machines directing customers to their seats. Each possesses a touch-screen on which orders can be keyed in. The robot then returns with the correct dishes. In Japan, University of Tokyo researchers recently unveiled a kitchen 'android' that could wash dishes, pour tea and make a few limited meals. The ultimate aim is to provide robot home helpers for the sick and the elderly, a key concern in a country like Japan where 22 per cent of the population is 65 or older. Over US$1 billion a year is spent on research into robots that will be able to care for the elderly. 'Robots first learn basic competence - how to move around a house without bumping into things. Then we can think about teaching them how to interact with humans,' Chrisley said. Machines such as these take researchers into the field of socialised robotics: how to make robots act in a way that does not scare or offend individuals, 'We need to study how robots should approach people, how they should appear. That is going to be a key area for future research,' adds Chrisley.

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

A. Bill Gates
B. Nello Cristianini
C. Ron Chrisley

20. An important concern for scientists is to ensure that robots do not seem frightening.

21. We have stopped trying to enable robots to perceive objects as humans do.

22. It will take considerable time for modern robots to match the ones we have created in films and books.

23. We need to enable robots to move freely before we think about trying to communicate with them.

PASSAGE 2

The literature on goal-setting theory suggests that managers should ensure that all employees have specific goals and receive comments on how well they are doing in those goals. For those with high achievement needs, typically a minority in any organisation, the existence of external goals is less important because high achievers are already internally motivated. The next factor to be determined is whether the goals should be assigned by a manager or collectively set in conjunction with the employees. The answer to that depends on perceptions the culture, however, goals should be assigned. If participation and the culture are incongruous, employees are likely to perceive the participation process as manipulative and be negatively affected by it.

The way rewards ore distributed should be transparent so that employees perceive that rewards or outcomes are equitable and equal to the inputs given. On a simplistic level, experience, abilities, effort and other obvious inputs should explain differences in pay, responsibility and other obvious outcomes. The problem, however, is complicated by the existence of dozens of inputs and outcomes and by the fact that employee groups place different degrees of importance on them. For instance, a study comparing clerical and production workers identified nearly twenty inputs and outcomes. The clerical workers considered factors such as quality of work performed and job knowledge near the top of their list, but these were at the bottom of the production workers' list. Similarly, production workers thought that the most important inputs were intelligence and personal involvement with task accomplishment, two factors that were quite low in the importance ratings of the clerks. There were also important, though less dramatic, differences on the outcome side. For example, production workers rated advancement very highly, whereas clerical workers rated advancement in the lower third of their list. Such findings suggest that one person's equity is another's inequity, so an ideal should probably weigh different inputs and outcomes according to employee group.

25. high achievers
26. clerical workers
27. production workers

List of Descriptions

A. They judge promotion to be important.
B. They have less need of external goals.
C. They think that the quality of their work is important.
D. They resist goals which are imposed.
E. They have limited job options.

PASSAGE 3

The increasing self-reliance of many elderly people is probably linked to a massive increase in the use of simple home medical aids. For instance, the use of raised toilet seats has more than doubled since the start of the study, and the use of bath seats has grown by more than 50%. These developments also bring some health benefits, according to a report from the MacArthur Foundation's research group on successful ageing. The group found that those elderly people who were able to retain a sense of independence were more likely to stay healthy in old age.

Maintaining a level of daily physical activity may help mental functioning, says Carl Cotman, a neuroscientist at the University of California at Irvine. He found that rats that exercise on a treadmill have raised levels of brain-derived neurotrophic factor coursing through their brains. Cotman believes this hormone, which keeps neurons functioning, may prevent the brains of active humans from deteriorating.

As part of the same study, Teresa Seeman, a social epidemiologist at the University of Southern California in Los Angeles, found a connection between self-esteem and stress in people over 70. In laboratory simulations of challenging activities such as driving, those who felt in control of their lives pumped out lower levels of stress hormones such as cortisol. Chronically high levels of these hormones have been linked to heart disease.

But independence can have drawbacks. Seeman found that elderly people who felt emotionally isolated maintained higher levels of stress hormones even when asleep. The research suggests that older people fare best when they feel independent but know they can get help when they need it.

23. Home medical aids
24. Regular amounts of exercise
25. Feelings of control over life
26. Feelings of loneliness

A. may cause heart disease.
B. can be helped by hormone treatment.
C. may cause rises in levels of stress hormones.
D. have cost the United States government more than $200 billion.
E. may help prevent mental decline.
F. may get stronger at night.
G. allow old people to be more independent.
H. can reduce stress in difficult situations.

PASSAGE 4

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

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

22. Simon Blackmore

23. Eldert van Henten

24. Linda Calvin and Philip Martin

25. Lewis Holloway

26. Salah Sukkarieh

List of Findings

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

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

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

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

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

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

G. There are limits to the environmental benefits of automation.

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

PASSAGE 5

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.

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.

List of Nationalities

A. Babylonians
B. Egyptians
C. Greeks
D. English
E. Germans
F French

PASSAGE 6

It is impossible to learn the sequence of events that led to our developing the concept of number. Even the earliest of tribes had a system of numeration that, if not advanced, was sufficient for the tasks that they had to perform. Our ancestors had little use for actual numbers; instead their considerations would have been more of the kind *Is this enough?* rather than *How many?* when they were engaged in food gathering, for example. However, when early humans first began to reflect on the nature of things around them, they discovered that they needed an idea of number simply to keep their thoughts in order. As they began to settle, grow plants and herd animals, the need for a sophisticated number system became paramount. It will never be known how and when this numeration ability developed, but it is certain that numeration was well developed by the time humans had formed even semi-permanent settlements.

Evidence of early stages of arithmetic and numeration can be readily found. The indigenous peoples of Tasmania were only able to count *one, two, many*; those of South Africa counted *one, two, two and one, two twos, two twos and one*, and so on. But in real situations the number and words are often accompanied by gestures to help resolve any confusion. For example, when using the *one, two, many* type of system, the word *many* would mean, *Look at my hands and see how many fingers I am showing you*. This basic approach is limited in the range of numbers that it can express, but this range will generally suffice when dealing with the simpler aspects of human existence.

The lack of ability of some cultures to deal with large numbers is not really surprising. European languages, when traced back to their earlier version, are very poor in number words and expressions. The ancient Gothic word for ten, *tachund*, is used to express the number 100 as *tachund tachund*. By the seventh century, the word *teon* had become interchangeable with the *tachund* or *hund* of the Anglo-Saxon language, and so 100 was denoted as *hund teontig*, or ten times ten. The average person in the seventh century in Europe was not as familiar with numbers as we are today. In fact, to qualify as a witness in a court of law a man had to be able to count to nine!

Perhaps the most fundamental step in developing a sense of number is not the ability to count, but rather to see that a number is really an abstract idea instead of a simple attachment to a group of particular objects. It must have been within the grasp of the earliest humans to conceive that four birds are distinct from two birds; however, it is not an elementary step to associate the number 4, as connected with four birds, to the number 4, as connected with four rocks. Associating a number as one of the qualities of a specific object is a great hindrance to the development of a true number sense. When the number 4 can be registered in the mind as a specific word, independent of the

object being referenced, the individual is ready to take the first step toward the development of a notational system for numbers and, from there, to arithmetic.

Traces of the very first stages in the development of numeration can be seen in several living languages today. The numeration system of the Tsimshian language in British Columbia contains seven distinct sets of words for numbers according to the class of the item being counted: for counting flat objects and animals, for round objects and time, for people, for long objects and trees, for canoes, for measures, and for counting when no particular object is being numerated. It seems that the last is a later development while the first six groups show the relics of an older system. This diversity of number names can also be found in some widely used languages such as Japanese.

27. A developed system of numbering

28. An additional hand signal

29. In seventh-century Europe, the ability to count to a certain number

30. Thinking about numbers as concepts separate from physical objects

31. Expressing number differently according to class of item

A. was necessary in order to fulfil a civic role.

B. was necessary when people began farming.

C. was necessary for the development of arithmetic.

D. persists in all societies.

E. was used when the range of number words was restricted.

F. can be traced back to early European languages.

G. was a characteristic of early numeration systems.

BÀI 10: DẠNG MATCH HEADINGS

PASSAGE 1

Questions 27-30
Reading Passage 153 has **six** sections,
Choose the correct heading for sections **A-D** from the list of headings below.

Write the correct number, **i-vii**, in boxes **27-30** on your answer sheet.

List of Headings

i The role of video violence
ii The failure of government policy
iii Reasons for the increased rate of bullying
iv Research into how common bullying is in British schools
v The reaction from schools to enquiries about bullying
vi The effect of bullying on the children involved
vii Developments that have led to a new approach by schools

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

Persistent bullying is one of the worst experiences a child can face. How can it be prevented?

A Bullying can take a variety of forms, from the verbal -being taunted or called hurtful names- to the physical- being kicked or shoved- as well as indirect forms, such as being excluded from social groups. A survey I conducted with Irene Whitney found that in British primary schools up to a quarter of pupils reported experience of bullying, which in about one in ten cases was persistent. There was less bullying in secondary schools, with about one in twenty-five suffering persistent bullying, but these cases may be particularly recalcitrant.

B Bullying is clearly unpleasant, and can make the child experiencing it feel unworthy and depressed. In extreme cases it can even lead to suicide, though this is thankfully rare. Victimised pupils are more likely to experience difficulties with interpersonal relationships as adults, while children who persistently bully are more likely to grow up to be physically violent, and convicted of anti-social offences.

C Until recently, not much was known about the topic, and little help was available to teachers to deal with bullying. Perhaps as a consequence, schools would often deny the problem. 'There is no bullying at this school' has been a common refrain, almost certainty untrue. Fortunately more schools are now saying: There is not much bullying here, but when it occurs we have a clear policy for dealing with it.'

D Three factors are involved in this change. First is an awareness of the severity of the problem. Second, a number of resources to help tackle bullying have become available in Britain. For example, the Scottish Council for Research in Education produced a package of materials, Action Against Bullying, circulated to all schools in England and Wales as well as in Scotland in summer 1992, with a second pack, Supporting Schools Against Bullying, produced the following year. In Ireland, Guidelines on Countering Bullying Behaviour in Post-Primary Schools was published in 1993. Third, there is evidence that these materials work, and that schools can achieve something. This comes from carefully conducted 'before and after I evaluations of interventions in schools, monitored by a research team. In Norway, after an intervention campaign was introduced nationally, an evaluation of forty-two schools suggested that, over a two-year period, bullying was halved. The Sheffield investigation, which involved sixteen primary schools and seven secondary schools, found that most schools succeeded in reducing bullying.

Questions 31-34

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

Write the correct letter in boxes 31-34 on your answer sheet.

31. A recent survey found that in British secondary schools

A there was more bullying than had previously been the case.

B there was less bullying than in primary schools.

C cases of persistent bullying were very common.

D indirect forms of bullying were particularly difficult to deal with.

32. Children who are bullied

A are twice as likely to commit suicide as the average person.

B find it more difficult to relate to adults.

C are less likely to be violent in later life.

D may have difficulty forming relationships in later life.

33. The writer thinks that the declaration 'There is no bullying at this school'

A is no longer true in many schools.

B was not in fact made by many schools.

C reflected the school's lack of concern.

D reflected a lack of knowledge and resources.

34. What were the findings of research carried out in Norway?

A Bullying declined by 50% after an anti-bullying campaign.

B Twenty-one schools reduced bullying as a result of an anti-bullying campaign

C Two years is the optimum length for an anti-bullying campaign.

D Bullying is a less serious problem in Norway than in the UK.

PASSAGE 2

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	**Answer**
Paragraph **B**	X

14. Paragraph A
15. Paragraph C
16. Paragraph D
17 Paragraph E
18. Paragraph F
19. Paragraph G

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.

Question 20-26

Do the following statements agrees 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 19 56.
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 AFR.
26. A pilot entering class C airspace is flying over an average-sized city.

PASSAGE 3

Questions 14-18

Reading Passage 149 contains **six** Key Points.

Choose the correct heading for Key Points **TWO** to **SIX** from the list of headings below.

Write the correct number, **i-viii**, in boxes **14-18** on your answer sheet.

List of Headings

i Ensure the reward system is fair
ii Match rewards lo individuals
iii Ensure targets are realistic
iv Link rewards to achievement
v Encourage managers to take more responsibility
vi Recognise changes in employees' performance over time
vii Establish targets and give feedback
viii Ensure employees are suited to their jobs

Example	**Answer**
Key Point One	viii
14 Key Point Two	
15 Key Point Three	
16 Key Point Four	
17 Key Point Five	
18 Key Point Six	

Motivating Employees under Adverse Condition

THE CHALLENGE

It is a great deal easier to motivate employees in a growing organisation than a declining one. When organisations are expanding and adding personnel, promotional opportunities, pay rises, and the excitement of being associated with a dynamic organisation create Slings of optimism. Management is able to use the growth to entice and encourage employees. When an organisation is shrinking, the best and most mobile workers are prone to leave voluntarily. Unfortunately, they are the ones the organisation can least afford to lose - those with me highest skills and experience. The minor employees remain because their job options are limited.

Morale also surfers during decline. People fear they may be the next to be made redundant. Productivity often suffers, as employees spend their time sharing rumours and providing one another with moral support rather than focusing on their jobs. For those whose jobs are secure, pay increases are rarely possible. Pay cuts, unheard of during times of growth, may even be imposed. The challenge to management is how to motivate employees under such retrenchment conditions. The ways of meeting this challenge can be broadly divided into six Key Points, which are outlined below.

KEY POINT ONE

There is an abundance of evidence to support the motivational benefits that result from carefully matching people to jobs. For example, if the job is running a small business or an autonomous unit within a larger business, high achievers should be sought. However, if the job to be filled is a managerial post in a large bureaucratic organisation, a candidate who has a high need for power and a low need for affiliation should be selected. Accordingly, high achievers should not be put into jobs that are inconsistent with their needs. High achievers will do best when the job provides moderately challenging goals and where there is independence and feedback. However, it should be remembered that not everybody is motivated by jobs that are high in independence, variety and responsibility.

KEY POINT TWO

The literature on goal-setting theory suggests that managers should ensure that all employees have specific goals and receive comments on how well they are doing in those goals. For those with high achievement needs, typically a minority in any organisation, the existence of external goals is less important because high achievers are already internally motivated. The next factor to be determined is whether the goals should be assigned by a manager or collectively set in conjunction with the

employees. The answer to that depends on perceptions the culture, however, goals should be assigned. If participation and the culture are incongruous, employees are likely to perceive the participation process as manipulative and be negatively affected by it.

KEY POINT THREE

Regardless of whether goals are achievable or well within management's perceptions of the employee's ability, if employees see them as unachievable they will reduce their effort. Managers must be sure, therefore, that employees feel confident that their efforts can lead to performance goals. For managers, this means that employees must have the capability of doing the job and must regard the appraisal process as valid.

KEY POINT FOUR

Since employees have different needs, what acts as a reinforcement far one may not for another. Managers could use their knowledge of each employee to personalise the rewards over which they have control. Some of the more obvious rewards that managers allocate include pay, promotions, autonomy, job scope and depth, and the opportunity lo participate in goal-setting and decision-making.

KEY POINT FIVE

Managers need to make rewards contingent on performance. To reward factors other than performance will only reinforce those other factors. Key rewards such as pay increases and promotions or advancements should be allocated for the attainment of the employee's specific goals. Consistent with maximising the impact of rewards, managers should look for ways to increase their visibility. Eliminating the secrecy surrounding pay by openly communicating everyone's remuneration, publicising performance bonuses and allocating annual salary increases in a lump sum rather than spreading them out over an entire year are examples of actions that will make rewards more visible and potentially more motivating.

KEY POINT SIX

The way rewards ore distributed should be transparent so that employees perceive that rewards or outcomes are equitable and equal to the inputs given. On a simplistic level, experience, abilities, effort and other obvious inputs should explain differences in pay, responsibility and other obvious outcomes. The problem, however, is complicated by the existence of dozens of inputs and outcomes and by the fact that employee groups place different degrees of importance on them. For instance, a

study comparing clerical and production workers identified nearly twenty inputs and outcomes. The clerical workers considered factors such as quality of work performed and job knowledge near the top of their list, but these were at the bottom of the production workers' list. Similarly, production workers thought that the most important inputs were intelligence and personal involvement with task accomplishment, two factors that were quite low in the importance ratings of the clerks. There were also important, though less dramatic, differences on the outcome side. For example, production workers rated advancement very highly, whereas clerical workers rated advancement in the lower third of their list. Such findings suggest that one person's equity is another's inequity, so an ideal should probably weigh different inputs and outcomes according to employee group.

Questions 19-24

Do the following statements agree with the views of the writer in Reading Passage 149?

In boxes **19-24** 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

19. A shrinking organisation tends to lose its less skilled employees rather than its more skilled employees.
20. It is easier to manage a small business than a large business.
21. High achievers are well suited lo team work.
22. Some employees can feel manipulated when asked to participate in goal-setting.
23. The staff appraisal process should be designed by employees.
24. Employees' earnings should be disclosed to everyone within the organisation.

Questions 25-27

Look at the following groups of workers (Question ***25-27***) and the list of descriptions below

Match each group with the correct description, ***A -E.***

Write the correct letter, ***A-E***, in boxes ***25-27*** on your answer sheet.

25. high achievers
26. clerical workers
27. production workers

List of Descriptions

A They judge promotion to be important.
B They have less need of external goals.
C They think that the quality of their work is important.
D They resist goals which are imposed.
E They have limited job options.

BÀI 11: DẠNG MATCH INFORMATION WITH PARAGRAPHS

PASSAGE 1

A The Lumière Brothers opened their Cinematographe, at 14 Boulevard des Capucines in Paris, to 100 paying customers over 100 years ago, on December 8, 1985. Before the eyes of the stunned, thrilled audience, photographs came to life and moved across a flat screen.

B So ordinary and routine has this become to us that it takes a determined leap of imagination to grasp the impact of those first moving images. But it is worth trying, for to understand the initial shock of those images is to understand the extraordinary power and magic of cinema, the unique, hypnotic quality that has made film the most dynamic, effective art form of the 20th century.

C One of the Lumière Brothers' earliest films was a 30-second piece which showed a section of a railway platform flooded with sunshine. A train appears and heads straight for the camera. And that is all that happens. Yet the Russian director Andrei Tarkovsky, one of the greatest of all film artists, described the film as a 'work of genius'. 'As the train approached,' wrote Tarkovsky, 'panic started in the theatre: people jumped and ran away. That was the moment when cinema was born. The frightened audience could not accept that they were watching a mere picture. Pictures were still, only reality moved; this must, therefore, be reality. In their confusion, they feared that a real train was about to crush them.'

D Early cinema audiences often experienced the same confusion. In time, the idea of film became familiar, the magic was accepted- but it never stopped being magic. Film has never lost its unique power to embrace its audience and transport them to a different world. For Tarkovsky, the key to that magic was the way in which cinema created a dynamic image of the real flow of events. A still picture could only imply the existence of time, while time in a novel passed at the whim of the reader. But in cinema, the real, objective flow of time was captured.

E One effect of this realism was to educate the world about itself. For cinema makes the world smaller. Long before people travelled to America or anywhere else, they knew what other places looked like; they knew how other people worked and lived. Overwhelmingly, the lives recorded-at least in film fiction- have been American. From the earliest days of the industry, Hollywood has dominated the world film market. American imagery -the cars, the cities, the cowboys - became the

primary imagery of film. Film carried American life and values around the globe.

F And, thanks to film, future generations will know the 20th century more intimately than any other period. We can only imagine what life was like in the 14th century or in classical Rome. But the life of the modern world has been recorded on film in massive encyclopaedic detail. We shall be known better than any preceding generations.

G The 'star' was another natural consequence of cinema. The cinema star was effectively born in 1910. Film personalities have such an immediate presence that inevitably, they become super-real. Because we watch them so closely and because everybody in the world seems to know who they are, they appear more real to us than we do ourselves. The star as magnified human self is one of cinema's most strange and enduring legacies.

H Cinema has also given a new lease of life to the idea of the story. When the Lumiere Brothers and other pioneers began showing off this new invention, it was by no means obvious how it would be used. All that mattered at first was the wonder of movement. Indeed, some said that, once this novelty had worn off, cinema would fade away. It was no more than a passing gimmick, a fairground attraction.

I Cinema might, for example, have become primarily a documentary form. Or it might have developed like television -as a strange noisy transfer of music, information and narrative. But what happened was that it became, overwhelmingly, a medium for telling stories. Originally these were conceived as short stories- early producers doubted the ability of audiences to concentrate for more than the length of a reel. Then, in 1912, an Italian 2-hour film was hugely successful, and Hollywood settled upon the novel-length narrative that remains the dominant cinematic convention of today.

J And it has all happened so quickly. Almost unbelievably, it is a mere 1000 years since that train arrived and the audience screamed and fled, convinced by the dangerous reality of what they saw, and, perhaps, suddenly aware that the world could never be the same again -that, maybe, it could be better, brighter, more astonishing, more real than reality.

Questions 1-5

Reading Passage 148 has ten paragraphs, **A-J**.
Which paragraph contains the following information?

Write the correct letter, **A-J**. in boxes **1-5** on your answer sheet.

1. the location of the first cinema
2. how cinema came to focus on stories
3. the speed with which cinema has changed
4. how cinema teaches us about other cultures
5. the attraction of actors in films

Questions 6-9

Do the following statements agree with the views of the writer
In boxes **6-9** 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. It is important to understand how the first audiences reacted to the cinema.
7. The Lumiere Brothers' film about the train was one of the greatest films ever made.
8. Cinema presents a biased view of other countries.
9. Storylines were important in very early cinema.

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. The writer refers to the film of the train in order to demonstrate
    A the simplicity of early films.
    B the impact of early films.
    C how short early films were.
    D how imaginative early films were.

11. In Tarkovsky's opinion, the attraction of the cinema is that it
    A aims to impress its audience.
    B tells stories better than books.
    C illustrates the passing of lime.
    D describes familiar events.

12. When cinema first began, people thought that
    A it would always tell stories.
    B it should be used in fairgrounds.
    C its audiences were unappreciative.
    D its future was uncertain.

13. What is the best title for this passage?
    A The rise of the cinema star
    B Cinema and novels compared
    C The domination of Hollywood
    D The power of the big screen

PASSAGE 2

Venus in Transit

June 2004 saw the first passage., known as a 'transit` of the planet Venus across the face of the Sun in 122 years. Transits have helped shape our view of the whole Universe, as Heather Cooper and Nigel Henbest explain.

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 l882. 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 - if 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 realized that from different latitudes, the passage of the planet across the Suns 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 observers 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 17*h 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 realized 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 as 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 labored hard to analyze the results of these expeditions to observe Venus transits. Jonathan Franz Encke, Director of the Belin Observatory, finally determined a value for the AU based on all these parallax measurements: 153340,000 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?

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

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.

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 realized 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?

Write answers in boxes 22-26 on your answer sheet, write

TRUE it 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.

PASSAGE 3

Information Theory- the Big Data

Information theory lies at the heart of everything - from DVD players and the genetic code of DNA to the physics of the universe at its most fundamental. It has been central to the development of the science of communication, which enables data to be sent electronically and has therefore had a major impact on our lives.

A In April 2002 an event took place which demonstrated one of the many applications of information theory. The space probe, Voyager I, launched in 1977, had sent back spectacular images of Jupiter and Saturn and then soared out of the Solar System on a one-way mission to the stars. After 25 years of exposure to the freezing temperatures of deep space, the probe was beginning to show its age, Sensors and circuits were on the brink of failing and NASA experts realized that they had to do something or lose contact with their probe forever. The solution was to get a message to Voyager I to instruct it to use spares to change the failing parts. With the probe 12 billion kilometers from Earth, this was not an easy task. By means of a radio dish belonging to NASA's Deep Space Network, the message was sent out into the depths of space. Even travelling at the speed of light, it took over II hours to reach its target, far beyond the orbit of Pluto. Yet, incredibly, the little probe managed to hear the faint call from its home planet, and successfully made the switchover.

B It was the Iongest-distance repair job in history, and a triumph for the NASA engineers. But it also highlighted the astonishing power of the techniques developed by American communications engineer Claude Shannon, who had died just a year earlier. Born in 1916 in Petoskey, Michigart, Shannon showed an early talent for maths and for building gadgets, and made breakthroughs in the foundations of computer technology when still a student. While at Bell laboratories, Shannon developed information theory, but shunned the resulting acclaim. In the 1940s. he singlehandedly created an entire science of communication which has since inveigled its way into a host of applications, from DVDs to satellite communication to bar codes - any area, in short, where data has to be conveyed rapidly yet accurately.

C This all seems light years away from the down to-earth uses Shannon originally had for his work, which began when he was a 22-year—old graduate engineering student at the prestigious Massachusetts Institute of Technology in

1939. He set out with an apparently simple aim: to pin down the precise meaning of the concept of ‘information'. The most basic form of information, Shannon argued, is whether something is true or false - which can be captured in the binary unit, or 'bit', of the form 1 or 0. Having identified this fundamental unit, Shannon set about defining otherwise vague ideas about information and how to transmit it from place to place. ln the process he discovered something surprising: it is always possible to guarantee information will gel through random interference - ‘noise' — intact.

D Noise usually means unwanted sounds which interfere with genuine information. information theory generalizes this idea via theorems that capture the effects of noise with mathematical precision. In particular, Shannon showed that noise sets a limit on the rate at which information can pass along communication channels while remaining error-free. This rate depends on the relative strengths of the signal and noise travelling down the communication channel, and on its capacity (its' bandwidth'). The resulting limit, given in units of bits per second, is the absolute maximum rate of error-free communication given signal strength and noise level. The trick, Shannon showed, is to find ways of packaging up - ‘coding' - information to cope with the ravages of noise, while staying within the information carrying capacity ‘bandwidth' - of the communication system being used.

E Over the years scientists have devised many such coding methods, and they have proved crucial in many technological feats. The Voyager spacecraft transmitted data using codes which added one extra bit for every single bit of information; the result was an error rate of just one bit in 10,000 — and stunningly clear pictures of the planets. Other codes have become part of everyday life - such as the Universal Product Code, or bar code, which uses a simple error-detecting system that ensures supermarket check-out lasers can read the price even on. say, a crumpled bag of crisps. As recently as 1993, engineers made a major breakthrough by discovering so-called turbo codes - which come very close to Shannon’s ultimate limit for the maximum rate that data can be transmitted reliably, and now play a key role in the mobile videophone revolution.

F Shannon also laid the foundations of more efficient ways of storing information, by stripping out superfluous (‘redundant') bits from data which contributed little real information. As mobile phone text messages like 'l CN C U' show, it is often possible to leave out a lot of data without losing much meaning, As with error correction, however, there's a limit beyond which messages become too ambiguous. Shannon showed how to calculate this limit, opening the way to the design of compression methods that cram maximum information into the minimum space.

Questions 27-32

Reading Passage 56 has six paragraphs, A-F.

Which paragraph contains the following information?

Write the correct letter A-E in boxes 27-32 on your answer sheet.

27. an explanation of the factors affecting the transmission of information

28. an example of how unnecessary information can be omitted

29. a reference to Shannon's attitude to fame

30. details of a machine capable of interpreting incomplete information

31. a detailed account of an incident involving information theory

32. a reference to what Shannon initially intended to achieve in his research

Questions 33-37

Complete the notes below.

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

Write your answers in boxes 33—37 on your answer sheet.

The Voyager l Space Probe

The probe transmitted pictures of both **33** ..... and ..... , then left the **34** ..... The freezing temperatures were found to have a negative effect on parts of the space probe. Scientists feared that both the **35** ..... and ..... were about to stop working. The only hope was to tell the probe to replace them with **36** ..... - but distance made communication with the probe difficult. A **37** ..... was used to transmit the message at the speed of light.

The message was picked up by the probe and the switchover took place.

Questions 38-40

Do the following statements agree with the information given in Reading Passage 37 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. The concept of describing something as true or false was the starting point for Shannon in his attempts to send messages over distances.

39. The amount of information that can be sent in a given time period is determined with reference to the signal strength and noise level.

40. Products have now been developed which can convey more information than Shannon had anticipated as possible.