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The Power of Placebo

A Want to devise a new form of alternative medicine? NO problem. Here is the recipe. Be warm, sympathetic, reassuring and enthusiastic. Your treatment should involve physical contact, and each session with your patients should last at least half an hour. Encourage your patients to take an active part in their treatment and understand how their disorders relate to the rest of their lives. Tell them that their own bodies possess the true power to heal. Make them pay you out of their own pockets. Describe your treatment in familiar words, but embroidered with a hint of mysticism: energy fields, energy flows, energy blocks, meridians, forces, auras, rhythms and the like. Refer to the knowledge of an earlier age: wisdom carelessly swept aside by the rise and rise of blind, mechanistic science. Oh, come off it, you are saying something invented off the top of your head could not possibly work, could it?

B Well yes, it could-and often well enough to earn you a living. A good living if you are sufficiently convincing, or, better still, really believe in your therapy. Many illnesses get better on their own, so if you are lucky and administer your treatment at just the right time you will get the credit. But that's only part of it. Some of the improvement really would be down to you. Your healing power would be the outcome of a paradoxical force that conventional medicine recognizes but remains oddly ambivalent about: the placebo effect.

C Placebos are treatments that have no direct effect on the body, yet still work because the patient has faith in their power to heal. Most often the term refers to a dummy pill, but it applies just as much to any device or procedure, from a sticking plaster to a crystal to an operation. The existence of the placebo effect implies that even quackery may confer real benefits, which is why any mention of placebo is a touchy subject for many practitioners of complementary and alternative medicine, who are likely to regard it as tantamount to a charge of charlatanism. In fact, the placebo effect is a powerful part of all medical care, orthodox or otherwise, though its role is often neglected or misunderstood.

D One of the great strengths of CAM may be its practitioners' skill in deploying the placebo effect to accomplish real healing. "Complementary practitioners are miles better at producing non-specific effects and good therapeutic relationships," says Edzard Ernst, professor of CAM at Exeter University. The question is whether CAM could be integrated into conventional medicine, as some would like, without losing much of this power.

E At one level, it should come as no surprise that our state of mind can influence our physiology: anger opens the superficial blood vessels of the face; sadness pumps the tear glands. But exactly how placebos work their medical magic is still largely unknown. Most of the scant research done so far has focused on the control of pain, because it's one of the commonest complaints lends itself to experimental study. Here, attention has turned to the endorphin, morphine-like neurochemicals known to help control pain.

F But exactly how placebos work their medical magic is still largely unknown. Most of the scant research to date has focused on the control of pain, because it's one of the commonest complaints and lends itself to experimental study. Here, attention has turned to the endorphin, natural counterparts of morphine that are known to help control pain. "Any of the neurochemicals involved in transmitting pain impulses or modulating them might also be involved in generating the placebo response," says Don Price, an oral surgeon at the University of Florida who studies the placebo effect in dental pain.

G "But endorphins are still out in front?" that case has been strengthened by the recent work of

Fabrizio Benedetti of the University of Turin, who showed that the placebo effect can be abolished by a drug, naloxone, which blocks the effects of endorphins. Benedetti induced pain in human volunteers by inflating a blood-pressure cuff on the forearm. He did this several times a day for several days, using morphine each time to control the pain. On the final day, without saying anything, he placed the morphine with a saline solution. This still relieved the subjects' pain: a placebo effect. But when he added naloxone to the saline the pain relief disappeared. Here was direct proof that placebo analgesia is mediated, at least in part, by these natural opiates.

H Still, no one knows how belief triggers endorphin release, or why most people can't achieve placebo pain relief simply by willing it. Though scientists don't know exactly how placebos work, they have accumulated a fair bit of knowledge about how to trigger the effect. A London rheumatologist found, for example, that red dummy capsules made more effective painkillers than blue, green or yellow ones. Research on American students revealed that blue pills make better sedatives than pink, a colour more suitable for stimulants. Even branding can make a difference: if Aspirin or Tylenol are what you like to take for a headache, their chemically identical generic equivalents may be less effective.

I It matters, too, how the treatment is delivered. Decades ago, when the major tranquilliser chlorpromazine was being introduced, a doctor in Kansas categorised his colleagues according to whether they were keen on it, openly skeptical of its benefits, or took a "let's try and see" attitude. His conclusion: the more enthusiastic the doctor, the better the drug performed. And this year Ernst surveyed published studies that compared doctors' bedside manners. The studies turned up one consistent finding: "Physicians who adopt a warm, friendly and reassuring manner," he reported, "are more effective than those whose consultations are formal and do not offer reassurance."

G Warm, friendly and reassuring are precisely CAM's strong suits, of course. Many of the ingredients of that opening recipe—the physical contact, the generous swathes of time, the strong hints of supernormal healing power—are just the kind of thing likely to impress patients. It's hardly surprising, then, that complementary practitioners are generally best at mobilising the placebo effect, says Arthur Kleinman, professor of social anthropology at Harvard University.

Questions 1-5

Use the information in the passage to match the deed (listed **A-H**) with people below.

NB You may use any letter more than once.

- | |
|---|
| <p>A should easily be understood</p> <p>B should improve by itself</p> <p>C should not involve any mysticism</p> <p>D ought to last a minimum length of time</p> <p>E needs to be treated at the right time</p> <p>F should give more recognition</p> <p>G can earn valuable money</p> <p>H do not rely on any specific treatment</p> |
|---|

- 1 An alternative practitioner's description of treatment
- 2 An alternative practitioner who has faith in what he does

- 3 The illness of patients convinced of alternative practice
 4 Improvements of patients receiving alternative practice
 5 Conventional medical doctors

Questions 6-8

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

6 In the fifth paragraph, the writer uses the example of anger and sadness to illustrate that

- A people's feeling could affect their physical behaviour.
 B scientists don't understand how the mind influences the body.
 C research on the placebo effect is very limited.
 D how placebo achieves its effect is yet to be understood.

7 Research on pain control attracts most of the attention because

- A scientists have discovered that endorphins can help reduce pain.
 B only a limited number of researchers gain relevant experience.
 C pain reducing agents might also be involved in placebo effect.
 D patients often experience pain and like to complain about it.

8 Fabrizio Benedetti's research on endorphins indicates that

- A they are widely used to regulate pain.
 B they can be produced by willful thoughts.
 C they can be neutralized by introducing naloxone.
 D their pain-relieving effects do not last long enough.

Questions 9-13

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

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

- 9 There is enough information for scientists to fully understand the placebo effect.
 10 A London based researcher discovered that red pills should be taken off the market.
 11 People's preference on brands would also have effect on their healing.
 12 Medical doctors have a range of views of the newly introduced drug of chlopromazine.
 13 Alternative practitioners are seldom known for applying placebo effect.

A	G	B	H	F
A	D	C	FALSE	NOT GIVEN
TRUE	TRUE	FALSE		

The Secrets of Persuasion

A Cialdini's towel experiments (more of them later), are part of his research into how we persuade others to say yes. He wants to know why some people have a knack for bending the will of others, is it a telephone cold-caller talking to you about timeshares, or a parent whose children are compliant even without threats of extreme violence. While he's anxious not to be seen as the

man who's written the bible for snake-oil salesmen, for decades the Arizona State University social psychology professor has been creating systems for the principles and methods of persuasion, and writing bestsellers about them. Some people seem to be born with the skills, Cialdini's claim is that by applying a little science, even those of us who aren't should be able to get our own way more often. "All my life I've been an easy mark for the blandishment of salespeople and fundraisers and I'd always wondered why they could get me to buy things I didn't want and give to causes I hadn't heard of", says Cialdini, on the phone from London, where he is plugging his latest book.

B He found that laboratory experiments on the psychology of persuasion were telling only part of the story, so he began to research influence in the real world, enrolling in sales-training programmes: "I learnt how to sell automobiles from a lot, how to sell insurance from an office, how to sell encyclopedias door to door". He concluded there were six general "principles of influence" and has since put them to the test under slightly more scientific conditions. Most recently, that has meant messing about with towels. Many hotels leave a little card in each bathroom asking guests to reuse towels and thus conserve water and electricity and reduce pollution. Cialdini and his colleagues wanted to test the relative effectiveness of different words on those cards. Would guests be motivated to co-operate simply because it would help save the planet, or were other factors more compelling? To test this, the researchers changed the card's message from an environmental one to the simple (and truthful) statement that the majority of guests at the hotel had reused their towel at least once. Guests given this message were 26% more likely to reuse their towels than those given the old message.

C So much for towels. Cialdini has also learnt a lot from confectionery. Yes! Cites the work of New Jersey behavioural scientist David Strohmetz, who wanted to see how restaurant patrons would respond to a ridiculously small favour from their food server, in the form of an after-dinner chocolate for each diner. The secret, it seems, is in how you give the chocolate. When the chocolates arrived in a heap with the bill, tips went up a miserly 3% compared to when no chocolate was given. But when the chocolates were dropped individually in front of each diner, tips went up 14%. The scientific breakthrough, though, came when the waitress gave each diner one chocolate, headed away from the table then doubled back to give them one more each, as if such generosity had only just occurred to her. Tips went up 23%. This is "reciprocity" in action: we want to return favours done to us, often without bothering to calculate the relative value of what is being received and given.

D Geeling Ng, operations manager at Auckland's Soul Bar, says she's never heard of Kiwi waiting staff using such a cynical trick, not least because New Zealand tipping culture is so different from that of the US: "If you did that in New Zealand, as diners were leaving they'd say can we have some more?" But she certainly understands the general principle of reciprocity. The way to a diner's heart is "to give them something they're not expecting in the way of service". It might be something as small as leaving a mint on their plate, or it might be remembering that last time they were in they wanted their water with no ice and no lemon. "In America it would translate into an instant tip. In New Zealand it translates into a huge smile and thank you." And no doubt, return visits.

PRINCIPLES OF PERSUASION

E Reciprocity: People want to give back to those who have given to them. The trick here is to get

in first. That's why charities put a crummy pen inside a mail out, and why smiling women in supermarkets hand out dollops of free food. Scarcity: People want more of things they can have less of. Advertisers ruthlessly exploit scarcity ("limit four per customer", "sale must end soon"), and Cialdini suggests parents do too: "Kids want things that are less available, so say 'this is an unusual opportunity, you can only have this for a certain time'."

Authority: We trust people who know what they're talking about. So inform people honestly of your credentials before you set out to influence them. "You'd be surprised how many people fail to do that," says Cialdini. "They feel it's impolite to talk about their expertise." In one study, therapists whose patients wouldn't do their exercises were advised to display their qualification certificates Prominently. They did, and experienced an immediate leap in patient compliance.

Commitment/consistency: We want to act in a way that is consistent with the commitments we have already made. Exploit this to get a higher sign-up rate when soliciting charitable donations. First ask workmates if they think they will sponsor you on your egg-and-spoon marathon. Latex return with the sponsorship form to those who said yes and remind them of their earlier commitment.

Liking: We say yes more often to people we like. Obvious enough, but reasons for "liking" can be weird. In one study, people were sent survey forms and asked to return them to a named researcher. When the researcher gave a fake name resembling that of the subject (e. g, Cynthia Johnson is sent a survey by "Cindy Johansen"), surveys were twice as likely to be completed. We favour people who resemble us, even if the resemblance is as minor as the sound of their name.

Social proof: "We decide what to do by looking around to see what others just like us are doing. Useful for parents, says Cialdini. "Find groups of children who are behaving in a way that you would like your child to, because the child looks to the side, rather than at you." More perniciously, social proof is the force underpinning the competitive materialism of "keeping up with the Joneses".

Questions 14-17

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

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

14 Robert Cialdini experienced "principles of persuasion" at home.

15 Principle of persuasion has different types in the two different countries.

16 In New Zealand, people tend to give tips to attendants after being served a chocolate.

17 Elder generation of New Zealand is easily attracted by extra service of restaurants by principle of reciprocity.

Questions 18-21

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

18 What made Cialdini enroll in "sales-training programmes" in passage B?

A His interests lying in academic part.

B His motivation of researching secrets of persuasion.

C His identity of professor made him easily enter the course.

D This course related to the towel experiment he carried out.

19 Which of the following is NOT TRUE about Robert Cialdini?

A He is an academic psychologist in University.

B He is a representative of saponaceous sales.

C He participated in a sale training course.

D He carried out towel experiment with colleagues.

20 Which of the followings is CORRECT according to towel experiment in the passage?

A The experiment inspired from book of Science of Persuasion.

B Different messages have different effects to Guests.

C Customers behave more ecologically after renewed message.

D Hotels leave cards asking guests to switch off lights.

21 Which of the followings is CORRECT according to the candy shop experiment in the passage?

A Presenting way affects diner's tips.

B Regular customer gives tips more than irregulars.

C People give tips only when offered chocolates.

D Chocolate with bill got higher tips.

Questions 22-26

Use the information in the passage to match the category (listed A-I) with correct description below

A fancy title

B previous commitment

C cynical trick

D unusual opportunity

E compelling message

F bad behavior

G relative value

H competitive materialism

I similar name

22 Chocolate experiment suggested that people won't assess the _____ between obtaining and offering.

23 Parents use "Reciprocity principle" to persuade their children that 'it is a/an _____ make them cherish.

24 Expert won't show their certificate as it might be considered as a _____ to show off.

25 You can remind those of further undertaking their _____ if they said yes to your charity proposal.

26 A _____ between survey organizer and interviewee would help survey to be done in a positive way.

The Secrets of Persuasion

NOT GIVEN	TRUE	FALSE	NOT GIVEN	B
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B	B	A	G	D
F	B	I		

The History of Automobiles

A The history of the automobile begins as early as 1769, with the creation of steam engine automobiles capable of human transport. In 1806, the first cars powered by an internal combustion engine running on fuel gas appeared, which led to the introduction in 1885 of the ubiquitous modern petrol-fueled internal combustion engine.

B It is generally acknowledged that the first really practical automobiles with petrol or gasoline-powered internal combustion engines were completed almost simultaneously by several German inventors working independently: Karl Benz built his first automobile in 1885 in Mannheim. Benz was granted a patent for his automobile on 29 January 1886, and began the first production of automobiles in the early factory he owned, the later Mercedes-Benz, after Bertha Benz, his wife, had proved—with the first long-distance trip in August 1888, from Mannheim to Pforzheim and back—that the horseless coach was absolutely suitable for daily use.

C At the beginning of the century the automobile entered the transportation market for the rich. The drivers of the day were an adventurous lot, going out in every kind of weather, unprotected by an enclosed body, or even a convertible top. Everyone in town knew who owned what car and the cars were soon to become each individual's status. However, it became increasingly popular among the general population because it gave travelers the freedom to travel when they wanted to and where they wanted.

D The assembly line style of mass production and interchangeable parts had been pioneered in the U.S. This was facilitated by Henry Ford 1914 who did two important things. First he priced his car to be as affordable as possible and second, he paid his workers enough to be able to purchase the cars they were manufacturing. As a result, in North America and Europe the automobile became cheaper and more accessible to the middle class. This large-scale, production-line manufacturing of affordable automobiles was debuted Ford's cars came off the line in fifteen minute intervals, much faster than previous methods, increasing productivity eightfold (requiring 12.5 man-hours before, 1 hour 33minutes after), while using less manpower. Ford's complex safety procedures—especially assigning each worker to a specific location instead of allowing them to roam about—dramatically reduced the rate of injury. The assembly line forced workers to work at a certain pace with very repetitive motions which led to more output per worker while other countries were using less productive methods.

E The original Jeep vehicle that first appeared as the prototype Bantam BRC became the primary light 4-wheel-drive vehicle of the United States Army and Allies and made a huge leap in sale during World War Two, as well as the postwar period. Many Jeep variants serving similar military and civilian roles have since been created in other nations.

F Throughout the 1950s, engine power and vehicle speeds rose, designs became more integrated and artful, and cars spread across the world. The market changed somewhat in the 1960s, as Detroit began to worry about foreign competition, the European makers adopted ever higher technology, and Japan appeared as a serious car-producing nation. General Motors, Chrysler, and Ford tried radical small cars, like the GM A-bodies, but had little Success. Captive imports and badge engineering swept through the US and UK as amalgamated groups like the British Motor Corporation consolidated the market. BMC's revolutionary space-saving Mini, which first appeared in 1959, captured large sales worldwide. The trend for corporate consolidation reached Italy as niche makers like Maserati, Ferrari, and Lancia were acquired by larger companies. By the end of the decade, the number of automobile marques had been greatly reduced. (This test is offered by IELTS break up master, www.ysfsds.com)

G In America, performance became a prime focus of marketing, exemplified by pony cars and muscle cars. But everything changed in the 1970s as the 1973 oil crisis, automobile emissions control rules, Japanese and European imports, and stagnant innovation wreaked havoc on the American industry. Though somewhat ironically, full-size sedans staged a major comeback in the years between the energy crisis, with makes such as Cadillac and Lincoln staging their best sales years ever in the late 70s. Small performance cars from BMW, Toyota, and Nissan took the place of big-engined cars from America and Italy.

H On the technology front, the biggest developments in Post-war era were the widespread use of independent suspensions, wider application of fuel injection, and an increasing focus on safety in the design of automobile. The hottest technologies of the 1960s were NSU's "Wankel engine", the gas turbine, and the turbocharger. Of these, only the last, pioneered by General Motors but popularized by BMW and Saab, was to see widespread use. Mazda had much success with its "Rotary" engine which, however, acquired a reputation as a polluting gas-guzzler. Other Wankel licensees, including Mercedes-Benz and General Motors, never put their designs into production after the 1973 oil crisis. (Mazda's hydrogen-fuelled successor was later to demonstrate potential as an "ultimate eco-car".) Rover and Chrysler both produced experimental gas turbine cars to no effect.

I The modern era has also seen rapidly rising fuel efficiency and engine output. Once the automobile emissions concerns of the 1970s were conquered with computerised engine management systems, power began to rise rapidly. In the 1980s, a powerful sports car might have produced 200 horsepower (150KW)—just 20 years later, average passenger cars have engines that powerful, and some performance models offer three times as much power.

J Most automobiles in use today are propelled by an internal combustion engine, fueled by gasoline or diesel. Both fuels are known to cause air pollution and are also blamed for

contributing to climate change and global warming. Rapidly increasing oil prices, concerns about oil dependence, tightening environmental laws and restrictions on greenhouse gas emissions are propelling work on alternative power systems for automobiles. Efforts to improve or replace existing technologies include the development of hybrid vehicles, plug-in electric vehicles and hydrogen vehicles. Vehicles using alternative fuels such as ethanol flexible-fuel vehicles and natural gas vehicles are also gaining popularity in some countries.

Questions 14-18

Look at the following statements and the list of auto companies or car types in the box below:
Match each statement with the correct person **A-H**.

14 The type of auto has the highest prevalence in Post-war era.

15 The company that produces the industrialized cars that consumers can afford.

16 The example of auto whose interior room utilization is efficient.

17 The company which began the first manufacture of automobiles.

18 The type of autos hold the lead during the unfavorable period.

A The Ford (American, Henry Ford)	E Mazda
B The BMC's Mini	F Jeep
C Cadillac and Lincoln (American)	G NSU's "Wankel engine" car
D Mercedes-Benz (German)	H Maserati, Ferrari, and Lancia

Questions 19-25

Answer the questions below.

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

19 What is a common feature of modern cars' engine type since late 19th century?

20 In the past, what did the rich take owing a car as?

21 How long did Ford's pipeline line take to produce a car?

22 What's the negative term the public use when they mentioned the Wankel engine of Mazda?

23 What historical event becomes the turning point that Japanese cars grabbed the market share that used to belong to American cars?

24 What shot up with the application of engine management systems?

25 What resource the autos use is responsible to the pollution and global warming?

Question 26

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

26 What is the main idea of this passage?

A The follow up development of the Ford's mass production assembly line.

B The comparison of American autos and other imported autos.

C The historical development and innovation in car designs.

D The history of human and the Auto industry.

The History of Automobiles

G	A	B	D	C
----------	----------	----------	----------	----------

internal combustion	status	93 minutes	gas-guzzler	The oil crisis
fuel efficiency	fuels	B		

Reading passage 3 has seven paragraphs, A-G.

Choose the correct heading for paragraphs A-G from the list below.

List of Headings
i An initiative of CSR even without financial rewards
ii Tight combination of overall business strategy and CRS
iii Business expansion benefited from CSR
iv Lack of action by the state of social issues
v Drives or pressures to take CSR into practice
vi The consequence suffered by companies that failed to anticipate the social influence
vii Companies applying CSR should be selective
viii Mutually beneficial relationship between business and society

28 Paragraph A

29 Paragraph B

30 Paragraph C

31 Paragraph D

32 Paragraph E

33 Paragraph F

34 Paragraph G

Corporate Social Responsibility

The moral appeal---arguing that companies have a duty to be good citizens and to “do the right thing”---is prominent in the goal of Business for Social Responsibility, the leading nonprofit CSR business association in the United States.

A An excellent definition was developed in the 1980s “Meeting the needs of the present without compromising the ability of future generations to meet their own needs.” The notion of license to operate derives from the fact that every company needs tacit or explicit permission from governments, communities, and numerous other stakeholders to do business. Finally, reputation is used by many companies to justify CSR initiatives on the grounds that they will improve a company’s image, strengthen its brand, enliven morale, and even raise the Value of its stock.

B To advance CSR, we must root it in a broad understanding of the interrelationship between a corporation and society. To say broadly that business and society need each other might seem like a cliché, but it is also the basic truth that will pull companies out of the muddle that their current corporate-responsibility thinking has created. Successful corporations need a healthy society. Education, health care, and equal opportunity are essential to a productive workforce. Safe products and working conditions not only attract customers but lower the internal costs of accidents. Efficient utilization of land, water, energy, and other natural resources makes business more productive. Good government, the rule of law, and property rights are essential for

efficiency and innovation. Any business that pursues its ends at the expense of the society in which it operates will find its success to be illusory and ultimately temporary. At the same time, a health society needs successful companies. No social program can rival the business sector when it comes to creating the jobs, wealth, and innovation that improve standards of living and social conditions over time.

C A company's impact on society also changes over time, as social standards evolve and science progresses. Asbestos, now understood as a serious health risk, was thought to be safe in the early 1900s, given the scientific knowledge then available. Evidence of its risks gradually mounted for more than 50 years before any company was held liable for the harms it can cause. Many firms that failed to anticipate the consequences of this evolving body of research have been bankrupt by the results. No longer can companies be content to monitor only the obvious social impacts of today. Without a careful process for identifying evolving social effects of tomorrow, firms may risk their very survival.

D No business can solve all of society's problems or bear the cost of doing so. Instead, each company must select issues that intersect with its particular business. Corporations are not responsible for all the world's problems, nor do they have the resources to solve them all. Each company can identify the particular set of societal problems that it is best equipped to help resolve and from which it can gain the greatest competitive benefit. Addressing social issues by creating shared value will lead to self-sustaining solutions that do not depend on private or government subsidies. When a well-run business applies its vast resources, expertise, and management talent to problems that it understands and in which it has a stake, it can have a greater impact on social good than any other institution or philanthropic organization.

E The best corporate citizenship initiatives involve far more than writing a check: they specify clear, measurable goals and track results over time. A good example is GE's program to adopt underperforming public high schools near several of its major U.S. Facilities. The company contributes between \$250, 000 and \$1 million over a five-year period to each school and makes in-kind donations as well GE managers and employees take an active role by working with school administrators to assess needs and mentor or tutor students. The graduation rate of these schools almost doubled during this time period. Effective corporate citizenship initiatives such as this one create goodwill and improve relations with local governments and other important constituencies. What's more, GE's employees feel great pride in their participation. Their effect is inherently limited though. No matter how beneficial the program is, it remains incidental to the company's business, and the direct effect on GE's recruiting and retention is modest.

F Microsoft is a good example of a shared-value opportunity arising from investments in context. The shortage of information technology workers is a significant constraint on Microsoft's growth, currently, there are more than 450,000 unfilled IT positions in the United States alone. Community colleges, representing 45% of all U.S. Undergraduates, could be a major solution. Microsoft recognizes, however, that community colleges face special challenges: IT curricula are not standardized, technology used in classrooms is often outdated, and there are no systematic professional development programs to keep faculty up to date. In addition to contributing money and products, Microsoft sent employee volunteers to colleges to assess needs, contribute to curriculum development, and create faculty development institutes. Note that in this case, volunteers and assigned staff were able to use their core professional skills to address a social need, a far cry from typical volunteer programs. Microsoft has achieved results that have

benefited many communities while having a direct-and potentially significant-impact on the company.

G At the heart of any strategy is a unique value proposition: a set of needs a company can meet for its chosen customers that others cannot. The most strategic CSR occurs when a company adds a social dimension to its value proposition, making social impact integral to the overall strategy. Consider Whole Foods Market, whose value proposition is to sell organic, natural, and healthy food products to customers who are passionate about food and the environment. Whole Foods' commitment to natural and environmentally friendly operating practices extends well beyond sourcing. Stores are constructed using a minimum of virgin raw materials. Recently, the company purchased renewable wind energy credits equal to 100% of its electricity use in all of its stores and facilities, the only Fortune 500 Company to offset its electricity consumption entirely. Spoiled produce and biodegradable waste are trucked to regional centers for composting. Whole Foods' vehicles are being converted to run on biofuels. Even the cleaning products used in its stores are environmentally friendly. And through its philanthropy, the company has created the Animal Compassion Foundation to develop more natural and humane ways of raising farm animals. In short, nearly every aspect of the company's value chain reinforces the social dimensions of its value proposition, distinguishing Whole Foods from its competitors.

Questions 35-36

Complete the following summary of the paragraphs of Reading Passage 3, using **NO MORE THAN TWO WORDS** from the Reading Passage 3 for each answer.

The Implement of CSR, HOW?

Promotion of CSR requires the understanding of interdependence between business and society.

35_____ health care and education play significant roles in work efficiency. Restrictions imposed by government and companies both protect consumers from being treated unfairly. Enhancement of security situation can cut down the **36**_____ of accidents in the workplace. Similarly society becomes a pool of more human needs and aspirations.

Questions 37-40

Use the information in the passage to match the companies(listed A-C) with opinions or deeds below.

NB You may use any letter more than once.

A General Electronics	B Microsoft	C Whole foods market
------------------------------	--------------------	-----------------------------

37 The disposable waste

38 The way company purchases as goods

39 Subsidizing the under-developing country

40 Ensuring the access to updated information

Corporate Social Responsibility

v	viii	iv	vii	i
----------	-------------	-----------	------------	----------

iii	ii	equal opportunity	internal cost	C
C	A	B		

Tulip Bubble

A Long before anyone ever heard of Qualcomm, CMGI, Cisco Systems, or the other high-tech stocks that have soared during the current bull market, there was Semper Augustus. Both more prosaic and more sublime than any stock or bond, it was a tulip of extraordinary beauty, its midnight-blue petals topped by a band of pure white and accented with crimson flares. To denizens of 17th century Holland, little was as desirable.

B Around 1624, the Amsterdam man who owned the only dozen specimens was offered 3,000 guilders for one bulb. While there's no accurate way to render that in today's greenbacks, the sum was roughly equal to the annual income of a wealthy merchant. Yet the bulb's owner, whose name is now lost to history, nixed the offer.

C Who was crazier, the tulip lover who refused to sell for a small fortune or the one who was willing to splurge. That's a question that springs to mind after reading Tulip mania: *The Story of the World's Most Coveted Flower and the Extraordinary Passions*. It Aroused by British journalist Mike Dash. In recent years, as investors have intentionally forgotten everything they learned in Investing 101 in order to load up on unproved, unprofitable dot-com issues, tulip mania has been invoked frequently. In this concise, artfully written account, Dash tells the real history behind the buzzword and in doing so, offers a cautionary tale for our times.

D The Dutch were not the first to go gaga over the tulip. Long before the first tulip bloomed in Europe—in Bavaria, it turns out, in 1559—the flower had enchanted the Persians and bewitched the rulers of the Ottoman Empire. It was in Holland, however, that the passion for tulips found its most fertile ground, for reasons that had little to do with horticulture.

E Holland in the early 17th century was embarking on its Golden Age. Resources that had just a few years earlier gone toward fighting for independence from Spain now flowed into commerce. Amsterdam merchants were at the center of the lucrative East Indies trade, where a single voyage could yield profits of 400%. They displayed their success by erecting grand estates surrounded by flower gardens. The Dutch population seemed torn by two contradictory impulses: a horror of living beyond one's means and the love of a long shot.

F Enter the tulip "It is impossible to comprehend the tulip mania without understanding just how different tulips were from every other flower known to horticulturists in the 17th century," says Dash. "The colors they exhibited were more intense and more concentrated than those of ordinary plants." Despite the outlandish prices commanded by rare bulbs, ordinary tulips were sold by the pound. Around 1630, however, a new type of tulip fancier appeared, lured by tales of fat profits. These "florists" or professional tulip traders, sought out flower lovers and speculators alike. But if the supply of tulip buyers grew quickly, the supply of bulbs did not. The tulip was a

conspirator in the supply squeeze: It takes seven years to grow one from seed. And while bulbs can produce two or three clones, or “offsets” annually, the mother bulb only lasts a few years.

G Bulb prices rose steadily throughout the 1630s, as ever more speculators wedged into the market. Weavers and farmers mortgaged whatever they could to raise cash to begin trading. In 1633, a farmhouse in Hoorn changed hands for three rare bulbs. By 1636 any tulip—even bulbs recently considered garbage—could be sold off, often for hundreds of guilders. A futures market for bulbs existed, and tulip traders could be found conducting their business in hundreds of Dutch taverns. Tulip mania reached its peak during the winter of 1636-1637, when some bulbs were changing hands ten times in a day. The zenith came early that winter, at an auction to benefit seven orphans whose only asset was 70 fine tulips left by their father. One, a rare Violetten Admiraal van Enkhuizen bulb that was about to split in two, sold for 5,200 guilders, the all-time record. All told, the flowers brought in nearly 53,000 guilders.

H Soon after, the tulip market crashed utterly, spectacularly. It began in Haarlem, at a routine bulb auction when, for the first time, the greater fool refused to show up and pay. Within days, the panic had spread across the country. Despite the efforts of traders to prop up demand, the market for tulips evaporated. Flowers that had commanded 5,000 guilders a few weeks before now fetched one-hundredth that amount. Tulip mania is not without flaws. Dash dwells too long on the tulip’s migration from Asia to Holland. But he does a service with this illuminating, accessible account of incredible financial folly.

I Tulip mania differed in one crucial aspect from the dot-com craze that grips our attention today: Even at its height, the Amsterdam Stock Exchange, well-established in 1630, wouldn’t touch tulips. “The speculation in tulip bulbs always existed at the margins of Dutch economic life,” Dash writes. After the market crashed, a compromise was brokered that let most traders settle their debts for a fraction of their liability. The overall fallout on the Dutch economy was negligible. Will we say the same when Wall Street’s current obsession finally runs its course?

(This test is offered by IELTS break up master, www.ysfsds.com)

Questions 27-31

Reading Passage 3 has nine paragraphs, A-I.

Which paragraph contains the following information?

- 27** difference between Hi-tech share and tulips
- 28** spread of tulip before 17th century
- 29** indication of money offered for rare bulb in 17th century
- 30** tulip was treated as money in Holland
- 31** comparison made between tulip and other plants

Questions 32-36

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

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

- 32** In 1624, all the Tulip collection belonged to a man in Amsterdam.
- 33** Tulip was first planted in Holland according to this passage.
- 34** Popularity of Tulip in Holland was much higher than any other countries as early as in 16th

century.

35 Holland was the most wealthy country in the world in 17th century.

36 From 1630, Amsterdam Stock Exchange started to regulate Tulips exchange market.

Questions 37-40

Complete the following summary of the paragraphs of Reading Passage 3, using **NO MORE THAN TWO WORDS** for each answer.

Dutch concentrated on gaining independence by 37_____ against Spain in the early 17th century, consequently spare resources entered the area of 38_____. Prosperous traders demonstrated their status by building 39_____ in surroundings. Attracted by the success of profit on tulip, traders kept looking for 40_____ and speculator for sale.

Tulip Bubble

I	D	B	G	F
TRUE	FALSE	FALSE	NOT GIVEN	FALSE
fighting	Commerce	flower gardens	flower lovers	

Mysterious Extinction of the Dinosaurs

A Everybody knows that the dinosaurs were killed by an asteroid. Something big hit the Earth 65m years ago and, when the dust had fallen, so had the great reptiles. There is thus a nice, if ironic, symmetry in the idea that a similar impact brought about the dinosaurs' rise. That is the thesis proposed by Paul Olsen, of Columbia University, and his colleagues in this week's Science.

B Dinosaurs first appear in the fossil record 230m years ago, during the Triassic period. But they were mostly small, and they shared the Earth with lots of other sorts of reptile. It was in the subsequent Jurassic, which began 202m years ago, that they overran the planet and turned into the monsters depicted in the book and movie "Jurassic Park". Dr Olsen and his colleagues are not the first to suggest that the dinosaurs inherited the Earth as the result of an asteroid strike. But they are the first to show that the takeover did, indeed, happen in a geological eyeblink.

C Dinosaur skeletons are rare. Dinosaur footprints are, however, surprisingly abundant. And the sizes of the prints are as good an indication of the sizes of the beasts as are the skeletons themselves. Dr Olsen and his colleagues therefore concentrated on prints, not bones.

D The researchers looked at 18 so-called ichnotaxa. These are recognisable types of footprint that cannot be matched precisely with the species of animal that left them. But they can be matched with a general sort of animal, and thus act as an indicator of the fate of that group, even when there are no bones to tell the story.

E Five of the ichnotaxa disappear before the end of the Triassic, and four march confidently across the boundary into the Jurassic. Six, however, vanish at the boundary, or only just splutter across it; and three appear from nowhere, almost as soon as the Jurassic begins.

F That boundary itself is suggestive. The first geological indication of the impact that killed the

dinosaurs was an unusually high level of iridium in rocks at the end of the Cretaceous, when the beasts disappear from the fossil record. Iridium is normally rare at the Earth's surface, but it is more abundant in meteorites. When people began to believe the impact theory, they started looking for other Cretaceous-end anomalies. One that turned up was a surprising abundance of fern spores in rocks just above the boundary layer—a phenomenon known as a “fern spike”.

G That matched the theory nicely. Many modern ferns are opportunists. They cannot compete against plants with leaves, but if a piece of land is cleared by, say, a volcanic eruption, they are often the first things to set up shop there. An asteroid strike would have scoured much of the Earth of its vegetable cover, and provided a paradise for ferns. A fern spike in the rocks is thus a good indication that something terrible has happened.

H Both an iridium anomaly and a fern spike appear in rocks at the end of the Triassic, too. That accounts for the disappearing ichnotaxa: the creatures that made them did not survive the holocaust. The surprise is how rapidly the new ichnotaxa appear. *Eubrontes giganteus*, for example, is there a mere 10,000 years after the iridium anomaly. The *Eubrontes* prints were made by theropods—the dinosaur group that went on to produce such nightmares as *Allosaurus* and *Tyrannosaurus*—and *Eubrontes* is already 20% bigger than any theropod track recorded from the Triassic.

I Dr Olsen and his colleagues suggest that the explanation for this rapid increase in size may be a phenomenon called ecological release. This is seen today when reptiles reach islands where they face no competitors. The most spectacular example is on the Indonesian island of Komodo, where local lizards have grown so large that they are often referred to as dragons. The dinosaurs, in other words, could flourish only when the competition had been knocked out.

J That leaves the question of where the impact happened. No large hole in the Earth's crust seems to be 202m years old. It may, of course, have been overlooked. Old craters are eroded and buried, and not always easy to find. Alternatively, it may have vanished. Although continental crust is more or less permanent, the ocean floor is constantly recycled by the tectonic processes that bring about continental drift. There is no ocean floor left that is more than 200m years old, so a crater that formed in the ocean would have been swallowed up by now.

K There is a third possibility, however. This is that the crater is known, but has been misdated. The Manicouagan “structure”, a crater in Quebec, is thought to be 214m years old. It is huge—some 100km across—and seems to be the largest of between three and five craters that formed within a few hours of each other as the lumps of a disintegrated comet hit the Earth one by one. Such an impact would surely have had a perceptible effect on the world, but the rocks from 214m years ago do not record one. It is possible, therefore, that Manicouagan has been misdated. That will be the next thing to check.

Questions 28-33

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

YES if the statement agrees with the information

NO if the statement contradicts the information

NOT GIVEN if there is no information on this

28 There is still doubt about the theory that the dinosaurs disappeared due to asteroid strike.

29 Dr Paul Olsen and his colleagues believed that asteroid knock also lead to dinosaurs boom: and continued to work in this field.

30 Books and magazines exaggerated the sizes of the dinosaurs in Cretaceous period.

31 Dinosaur footprints are more adequate than dinosaur skeletons.

32 Ichnotaxa showed that footprints of dinosaurs offer exact information of the trace left by animals.

33 Dinosaurs did live both in the Triassic and Jurassic, in terms of evidence of ichnotaxa.

Questions 34-40

Complete the following summary of the paragraphs of Reading Passage 3, using **NO MORE THAN TWO WORDS** from Reading Passage 3 for each answer.

Dr Olsen and his colleagues explained that there was a fast transformation of dinosaurs' body because of a term named 34 _____. For example, animals in some places have no 35 _____. A good example is a lizard called Komodo in Indonesia, it is an indigenous huge lizard which people named it as 36 _____.

The issue floats to the surface: Where did it happen? The answer may be that we have 37 _____ useful clues. Firstly, old craters are difficult to be spotted or they probably 38 _____. Or the deep seabed is 39 _____ under the impact of crust movement. Another hypothesis is that the available knowledge about crater record is 40 _____.

NO	YES	NOT GIVEN	YES	NO
YES	ecological release	competitors	dragons	overlooked
vanished	recycled	misdated	F	

Lost Tribes of the Green Sahara

A On October 13, 2000, a small team of paleontologists led by Paul Sereno of the University of Chicago clambered out of three battered Land Rovers, filled their water bottles, and scattered on foot across the toffee-colored sands of the Ténéré desert in northern Niger. The Ténéré, on the southern flank of the Sahara, easily ranks among the most desolate landscapes on Earth. The Tuareg, turbaned nomads who for centuries have ruled this barren realm, refer to it as a “desert within a desert” —a California-size ocean of sand and rock, where a single massive dune might stretch a hundred miles, and the combination of 120-degree heat and inexorable winds can wick the water from a human body in less than a day. The harsh conditions, combined with intermittent conflict between the Tuareg and the Niger government, have kept the region largely unexplored.

B Mike Hettwer, a photographer accompanying the team, headed off by himself toward a trio of small dunes. He crested the first slope and stared in amazement. The dunes were spilling over with bones. He took a few shots with his digital camera and hurried back to the Land Rovers. “I found some bones,” Hettwer said, when the team had regrouped. “But they're not dinosaurs. They're human.”

C In the spring of 2005 Sereno contacted Elena Garcea, an archaeologist at the University of Cassino, in Italy, inviting her to accompany him on a return to the site. Garcea had spent three

decades working digs along the Nile in Sudan and in the mountains of the Libyan Desert, and was well acquainted with the ancient peoples of the Sahara. But she had never heard of Paul Sereno. His claim to have found so many skeletons in one place seemed far-fetched, given that no other Neolithic cemetery contained more than a dozen or so. Some archaeologists would later be skeptical, one sniped that he was just a “moonlighting paleontologist.” But Garcea was too intrigued to dismiss him as an interloper. She agreed to join him.

D Garcea explained that the Kiffian were a fishing-based culture and lived during the earliest wet period, between 8,000 and 10,000 years ago. She held a Kiffian sherd next to a Tenerian one.

“What is so amazing is that the people who made these two pots lived more than a thousand years apart.”

E Sereno flew home with the most important skeletons and artifacts and immediately began planning for the next field season. In the meantime, he carefully removed one tooth from each of four skulls and sent them to a lab for radiocarbon dating. The results pegged the age of the tightly bundled burials at roughly 9,000 years old, the heart of the Kiffian era. The smaller “sleeping” skeletons turned out to be about 6,000 years old, well within the Tenerian period.

At least now the scientists knew who was who.

F In the fall of 2006 they returned to Gobero, accompanied by a larger dig crew and six additional scientists. Garcea hoped to excavate some 80 burials, and the team began digging. As the skeletons began to emerge from the dunes, each presented a fresh riddle, especially the Tenerian. A male skeleton had been buried with a finger in his mouth.

G Even at the site, Arizona State University bioarchaeologist Chris Stojanowski could begin to piece together some clues. Judging by the bones, the Kiffian appeared to be a peaceful, hardworking people. “The lack of head and forearm injuries suggests they weren't doing much fighting” he told me. “And these guys were strong” He pointed to a long, narrow ridge running along a femur. “That's the muscle attachment,” he said. “This individual had huge leg muscles, which means he was eating a lot of protein and had a strenuous lifestyle—both consistent with a fishing way of life,” For contrast, he showed me the femur of a Tenerian male. The ridge was barely perceptible. “This guy had a much less strenuous lifestyle,” he said, “which you might expect of a herder.”

H Stojanowski's assessment that the Tenerian were herders fits the prevailing view among scholars of life in the Sahara 6,000 years ago, when drier conditions favored herding over hunting. But if the Tenerian were herders, Sereno pointed out, where were the herds? Among the hundreds of animal bones that had turned up at the site, none belonged to goats or sheep, and only three came from a cow species. “It's not unusual for a herding culture not to slaughter their cattle, particularly in a cemetery,” Garcea responded, noting that even modern pastoralists, such as Niger's Wodaabe, are loath to butcher even one animal in their herd. Perhaps, Sereno reasoned, the Tenerian at Gobero were a transitional group that had not fully adopted herding and still relied heavily on hunting and fishing.

I Back in Arizona, Stojanowski continues to analyze the Gobero bones for clues to the Green Saharans' health and diet. Other scientists are trying to derive DNA from the teeth. Which could reveal the genetic origins of the Kiffian and Tenerian—and possibly link them to descendants living today. Sereno and Garcea estimate a hundred burials remain to be excavated. But as the harsh Tenere winds continue to erode the dunes, time is running out. “Every archaeological site has a life cycle,” Garcea said. “It begins when people begin to use the place, followed by disuse,

then nature takes over, and finally it is gone. Gobero is at the end of its life.”

Questions 28-30

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

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

28 People of Tuareg and the Niger had already been very familiar with region of Tenere.

29 Hettwer stumbled upon human bones in the desert.

30 Sereno and Garcea have cooperated in an excavation before.

Questions 31-33

Answer the questions below.

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

31 What is the period called that Kiffian lived from 10,000 years ago?

32 What is the age of burials with tight band after Sereno's inspection?

33 What part of DNA analysis could help scientists to identify origin of Kiffian and Tenerian?

Questions 34-40

Complete the summary below.

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

Kiffian are different from people who lived in another life status in terms of the body analysis, etc. Kiffian lived a 34_____ and hardworking life, because we did not find 35_____ on their body. It also can be inferred that their life was 36_____ through observation of the 37_____ on their muscle, from which Chris concluded that their diet had plenty of 38_____. All evidence pointed that these people were fishermen.

On the other hand, Tenerian was assumed to live on herding over hunting, but only some bones of 39_____ were found, which Sereno presumed that Tenerian at Gobero lived in a 40_____ state at that time.

T	T	F	wetperiod	9000 years
old	teeth	peaceful	injuries	strenuous
attachment	fish	cow	transitional	

Water Treatment : Reed Bed

A Nowadays subsurface flow wetlands are a common alternative in Europe for the treatment of waste water in rural areas. Mainly in the last 10 to 12 years there has been a significant growth in the number and size of the systems in use. Compared to common treatment facilities, wetlands are lower in cost investment, lesser to maintain, and are ideal for densely populated rural or suburban areas rather than urban areas.

B The Common Reed has the ability to transfer oxygen from its leaves, down through its stem and rhizomes, and out via its root system. As a result of this action, a very high population of micro-organisms occurs in the root system, with zones of aerobic, anoxic, and anaerobic conditions. Therefore with the waste water moving very slowly and carefully through the mass of Reed roots, this liquid can be successfully treated.

C A straightforward definition of a reed bed is if you have dirty water in your pool or water, which is heavily polluted, Reed Beds will be planted to make the water clean again. This is good for

ecology and living organisms and fish in the water. Reed Beds have a wide range of qualities and are acceptable for cleaning everything from secondary to tertiary treatment of mild domestic effluent, to rural waste and even heavy industrial contaminants. The reason why they're so effective is often because within the bed's root sector, natural biological, physical and chemical processes interact with one another to degrade or remove a good range of pollutants. Reed beds can be built in a number of variants, but mainly they are of the horizontal flow or vertical (down) flow configuration where water flows through the beds horizontally or vertically.

Horizontal Flow Reed Bed Systems

D Horizontal-flow wetlands may be of two types: free-water surface-flow (FWF) or sub-surface water-flow (SSF). In the former the effluent flows freely above the sand/gravel bed in which the reeds etc. are planted; in the latter effluent passes through the sand/gravel bed. In FWF-type wetlands, effluent is treated by plant stems, leaves and rhizomes. Such FWF wetlands are densely planted and typically have water-depths of less than 0.4m. However, dense planting can limit oxygen diffusion into the water. These systems work particularly well for low strength effluents or effluents that have undergone some form of pretreatment and play an invaluable role in tertiary treatment and the polishing of effluents. The horizontal reed flow system uses a long reed bed, where the liquid slowly flows horizontally through. The length of the reed bed is about 100 meters. The downside of the horizontal reed beds is that they use up lots of land space and they do take quite a long time to produce clean water.

Vertical Flow Reed Bed Systems

E A vertical flow reed bed is a sealed, gravel filled trench with reeds growing in it (see the picture below). The common reed oxygenates the water, which helps to create the right environment for colonies of bacteria to break down unwanted organic matter and pollutants. The reeds also make the bed attractive to wildlife.

How a vertical flow reed bed works?

F In vertical flow (downflow) reed beds, the waste water is applied on top of the reed bed, flows down through a rhizome zone with sludge as substrate, then the root zone with sand as substrate and followed by a layer of gravel for drainage, and is collected in an under drainage system of large stones. The effluent flows onto the surface of the bed and percolates slowly through the different layers into an outlet pipe, which leads to a horizontal flow bed and is cleaned by millions of bacteria, algae, fungi, and microorganisms that digest the waste, including sewage. There is no standing water so there should be no unpleasant smells.

G Vertical flow reed bed systems are much more effective than horizontal flow reed-beds not only in reducing biochemical oxygen demanded (BOD) and suspended solids (SS) levels but also in reducing ammonia levels and eliminating smells. Usually considerably smaller than horizontal flow beds, but they are capable of handling much stronger effluents which contain heavily polluted matters and have a longer lifetime value. A vertical Reed bed system works more efficiently than a horizontal reed bed system, but it requires more management, and its reed beds are often operated for a few days then rested, so several beds and a distribution system are needed.

H There are several advantages of Reed Bed Systems over traditional forms of water treatment: first, they have low construction and running costs; second, they are easy management; third, they have an excellent reduction of biochemical oxygen demand and suspended solids; last, they have a potential for efficient removal of a wide range of pollutants.

Reed beds are natural habitats found in floodplains, waterlogged depressions and estuaries. The natural bed systems are a biologically proved, an environmentally friendly and visually unobtrusive way of treating waste water, and have the extra virtue of frequently been better than mechanical waste water treatment systems. In the medium to long term reed bed systems are, in most cases, more cost effective in installment than any other waste water treatment. They are robust and require little maintenance. They are naturally environmentally sound protecting groundwater, dams, creeks, rivers and estuaries.

Questions 28-30

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

In boxes 14-16 on your answer sheet, write

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

28 The Reed bed system is a conventional method for water treatment in urban area.

29 In the reed roots, there' s a series of process that help breakdown the pollutants.

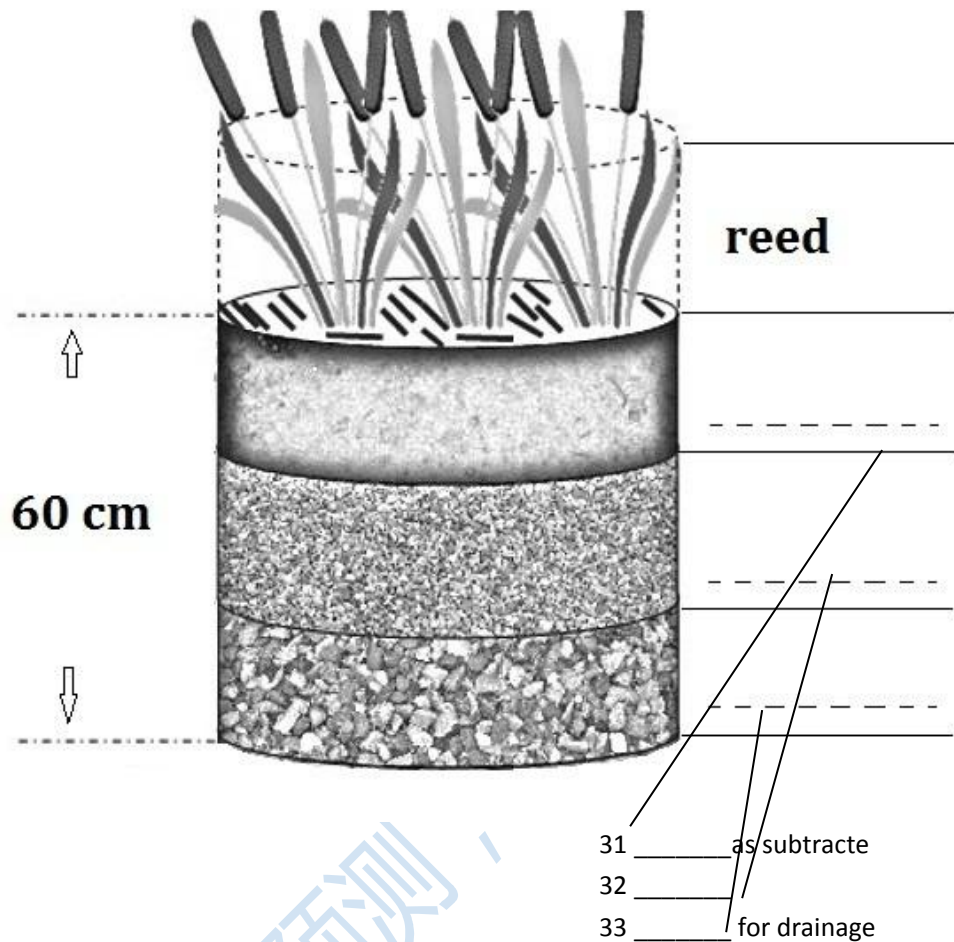
30 Escherichia coli is the most difficult bacteria to be dismissed.

Questions 31-33

Complete the diagram below.

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

Downflow Reed Bed System



Questions 34-38

Use the information in the passage to match the advantages and disadvantages of the two systems: horizontal flow system and down-flow system (listed A-H) below. Write the appropriate letters A-H in boxes 20-24 on your answer sheet.

34 _____, which is the advantage of the down-flow system. However, 35 _____ and 36 _____ are the disadvantages of the down-flow system 37 _____ and 38 _____ are the two benefits of the horizontal flow system. However it's less effective and efficient.

A It can deal with a more seriously polluted effluent.

B It requires more beds than one compared to the other.

C It needs less control and doesn't need to be taken care of all the time.

D It requires a lot of guidance.

E It can't work all the time because the pool needs time to rest and recover after a certain period.

F It's a lot more complicated to build the system.

G The system is easy to be built which does not need auxiliary system.

H It consumes less water.

Questions 39-40

Choose two correct letters, from the following A, B, C, D or E.

Write your answers in boxes 25-26 on your answer sheet.

What are the two benefits of natural bed systems when compared to the conventional systems?

A Operation does not require electricity or fuel supply.

B They're visually good and environmental friendly.

C No mechanical systems are involved.

D They're to be set up and used in less cost.

E They do not break down.

FALSE	TRUE	NOT GIVEN	sludge	sand
gravel	A	B	E	C
G	A	D		

The Impact of the Potato

Jeff Chapman relates the story of history the most important vegetable.

A The potato was first cultivated in South America between three and seven thousand years ago, though scientists believe they may have grown wild in the region as long as 13,000 years ago. The genetic patterns of potato distribution indicate that the potato probably originated in the mountainous west-central region of the continent.

B Early Spanish chroniclers who misused the Indian word batata (sweet potato) as the name for the potato noted the importance of the tuber to the Incan Empire. The Incas had learned to preserve the potato for storage by dehydrating and mashing potatoes into a substance called Chuchu could be stored in a room for up to 10 years, providing excellent insurance against possible crop failures. As well as using the food as a staple crop, the Incas thought potatoes made childbirth easier and used it to treat injuries.

C The Spanish conquistadors first encountered the potato when they arrived in Peru in 1532 in search of gold, and noted Inca miners eating chuchu. At the time the Spaniards failed to realize that the potato represented a far more important treasure than either silver or gold, but they did gradually begin to use potatoes as basic rations aboard their ships. After the arrival of the potato in Spain in 1570, a few Spanish farmers began to cultivate them on a small scale, mostly as food for livestock.

D Throughout Europe, potatoes were regarded with suspicion, distaste and fear. Generally considered to be unfit for human consumption, they were used only as animal fodder and sustenance for the starving. In northern Europe, potatoes were primarily grown in botanical gardens as an exotic novelty. Even peasants refused to eat from a plant that produced ugly, misshapen tubers and that had come from a heathen civilization. Some felt that the potato plant's resemblance to plants in the nightshade family hinted that it was the creation of witches or devils. (This test is offered by IELTS break up master, www.ysfsds.com)

E In meat-loving England, farmers and urban workers regarded potatoes with extreme distaste. In 1662, the Royal Society recommended the cultivation of the tuber to the English government and the nation, but this recommendation had little impact. Potatoes did not become a staple until,

during the food shortages associated with the Revolutionary Wars, the English government began to officially encourage potato cultivation. In 1795, the Board of Agriculture issued a pamphlet entitled "Hints Respecting the Culture and Use of Potatoes"; this was followed shortly by pro-potato editorials and potato recipes in *The Times*. Gradually, the lower classes began to follow the lead of the upper classes.

F A similar pattern emerged across the English Channel in the Netherlands, Belgium and France. While the potato slowly gained ground in eastern France (where it was often the only crop remaining after marauding soldiers plundered wheat fields and vineyards), it did not achieve widespread acceptance until the late 1700s. The peasants remained suspicious, in spite of a 1771 paper from the *Faculté de Paris* testifying that the potato was not harmful but beneficial. The people began to overcome their distaste when the plant received the royal seal of approval: Louis XVI began to sport a potato flower in his buttonhole, and Marie-Antoinette wore the purple potato blossom in her hair.

G Frederick the Great of Prussia saw the potato's potential to help feed his nation and lower the price of bread, but faced the challenge of overcoming the people's prejudice against the plant. When he issued a 1774 order for his subjects to grow potatoes as protection against famine, the town of Kolberg replied: "The things have neither smell nor taste, not even the dogs will eat them, so what use are they to us?" Trying a less direct approach to encourage his subjects to begin planting potatoes, Frederick used a bit of reverse psychology: he planted a royal field of potato plants and stationed a heavy guard to protect this field from thieves. Nearby peasants naturally assumed that anything worth guarding was worth stealing, and so snuck into the field and snatched the plants for their home gardens. Of course, this was entirely in line with Frederick's wishes.

H Historians debate whether the potato was primarily a cause or an effect of the huge population boom in industrial-era England and Wales. Prior to 1800, the English diet had consisted primarily of meat, supplemented by bread, butter and cheese. Few vegetables were consumed, most vegetables being regarded as nutritionally worthless and potentially harmful. This view began to change gradually in the late 1700s. The Industrial Revolution was drawing an ever increasing percentage of the populace into crowded cities, where only the richest could afford homes with ovens or coal storage rooms, and people were working 12-16 hour days which left them with little time or energy to prepare food. High yielding, easily prepared potato crops were the obvious solution to England's food problems.

I Whereas most of their neighbors regarded the potato with suspicion and had to be persuaded to use it by the upper classes, the Irish peasantry embraced the tuber more passionately than anyone since the Incas. The potato was well suited to the Irish soil and climate, and its high yield suited the most important concern of most Irish farmers: to feed their families.

J The most dramatic example of the potato's potential to alter population patterns occurred in Ireland, where the potato had become a staple by 1800. The Irish population doubled to eight million between 1780 and 1841, this without any significant expansion of industry or reform of agricultural techniques beyond the widespread cultivation of the potato. Though Irish landholding practices were primitive in comparison with those of England, the potato's high yields allowed even the poorest farmers to produce more healthy food than they needed with scarcely any investment or hard labor. Even children could easily plant, harvest and cook potatoes, which of course required no threshing, curing or grinding. The abundance provided by potatoes

greatly decreased infant mortality and encouraged early marriage.

Questions 14-18

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

In boxes 14-18 on your answer sheet, write:

TRUE if the statement is true

FALSE if the statement is false

NOT GIVEN if the information is not given in the passage

14 The early Spanish called potato as the Incan name 'Chuchu'.

15 The purposes of Spanish coming to Peru were to find out potatoes.

16 The Spanish believed that the potato has the same nutrients as other vegetables.

17 Peasants at that time did not like to eat potatoes because they were ugly.

18 The popularity of potatoes in the UK was due to food shortages during the war.

Questions 19-26

Complete the sentences below with NO MORE THAN ONE WORD from the passage 2 for each answer. Write your answers in boxes 19-26 on your answer sheet.

19 In France, people started to overcome their disgusting about potatoes because the King put a potato _____ in his button hole.

20 Frederick realized the potential of potato but he had to handle the _____ against potatoes from ordinary people.

21 The King of Prussia adopted some _____ psychology to make people accept potatoes.

22 Before 1800, the English people preferred eating _____ with bread, butter and cheese.

23 The obvious way to deal with England food problems were high yielding potato _____.

24 The Irish _____ and climate suited potatoes well.

25 Between 1780 and 1841, based on the _____ of the potatoes, the Irish population doubled to eight million.

26 The potato's high yields help the poorest farmers to produce more healthy food almost without _____.

FALSE	FALSE	NOT GIVEN	TRUE	TRUE
flower	prejudice	reverse	meat	crops
soil	cultivation	investment		

Monkeys and Forests

A Ken Glander, a primatologist from Duke University, gazes into the canopy, tracking the female's movements. Holding a dart gun, he waits with infinite patience for the right moment to shoot. With great care, Glander aims and fires. Hit in the rump, the monkey wobbles.

B This howler belongs to a population that has lived for decades at Hacienda La Pacifica, a

working cattle ranch in Guanacaste province; Other native primates-white-faced capuchin monkeys and spider monkeys-once were common in this area, too, but vanished after the Pan-American Highway was built nearby in the 1950s. Most of the surrounding land was clear-cut for pasture.

C Howlers persist at La Pacifica, Glander explains, because they are leaf-eaters. They eat fruit, when it's available but, unlike capuchin and spider monkeys, do not depend on large areas of fruiting trees. "Howlers can survive anyplace you have half a dozen trees, because their eating habits are so flexible," he says. In forests, life is an arms race between trees and the myriad creatures that feed on leaves. Plants have evolved a variety of chemical defenses, ranging from bad-tasting tannins, which bind with plant-produced nutrients, rendering them indigestible, to deadly poisons, such as alkaloids and cyanide.

D All primates, including humans, have some ability to handle plant toxins. "We can detoxify a dangerous poison known as caffeine, which is deadly to a lot of animals" Glander says. For leaf-eaters, long-term exposure to a specific plant toxin can increase their ability to defuse the poison and absorb the leaf nutrients.

E The leaves that grow in regenerating forests, like those at La Pacifica, are actually more howler friendly than those produced by the undisturbed, centuries-old trees that survive farther south, in the Amazon Basin. In younger forests, trees put most of their limited energy into growing wood, leaves and fruit, so they produce much lower levels of toxin than do well-established, old-growth trees.

F The value of maturing forests to primates is a subject of study at Santa Rosa National Park, about 35 miles northwest of Hacienda La Pacifica. The park hosts populations not only of mantled howlers but also of white-faced capuchins and spider monkeys. Yet the forests there are young, most of them less than 50 years old.

G Capuchins were the first to begin using the reborn forests, when the trees were as young as 14 years. Howlers, larger and heavier than capuchins, need somewhat older trees, with limbs that can support their greater body weight. A working ranch at Hacienda La Pacifica also explain their population boom in Santa Rosa. "Howlers are more resilient than capuchins and spider monkeys for several reasons," Fedigan explains. "They can live within a small home range, as long as the trees have the right food for them. Spider monkeys, on the other hand, occupy a huge home range, so they can't make it in fragmented habitat."

H Howlers also reproduce faster than do other monkey species in the area. Capuchins don't bear their first young until about 7 years old, and spider monkeys do so even later, but howlers give birth for the first time at about 3.5 years of age. Also, while a female spider monkey will have a baby about once every four years, well-fed howlers can produce an infant every two years.

I The leaves howlers eat hold plenty of water, so the monkeys can survive away from open streams and water holes. This ability gives them a real advantage over capuchin and spider

monkeys, which have suffered during the long, ongoing drought in Guanacaste.

J Alejandro Estrada, an ecologist at Estación de Biología Los Tuxtlas in Veracruz, Mexico, has been exploring how monkeys survive in a landscape increasingly shaped by humans. He and his colleagues recently studied the ecology of a group of mantled howler monkeys that thrive in a habitat completely altered by humans: a cacao plantation in Tabasco, Mexico.

K Estrada believes the monkeys bring underappreciated benefits to such farms, dispersing the seeds of fig and other shade trees and fertilizing the soil with feces. He points out that howler monkeys live in shade coffee and cacao plantations in Nicaragua and Costa Rica as well as in Mexico. Spider monkeys also forage in such plantations, though they need nearby areas of forest to survive in the long term. He hopes that farmers will begin to see the advantages of associating with wild monkeys, which includes potential ecotourism projects. "Conservation is usually viewed as a conflict between agricultural practices and the need to preserve nature," Estrada says. "We're moving away from that vision and beginning to consider ways in which agricultural activities may become a tool for the conservation of primates in human-modified landscapes."

Questions 1-5

Complete the sentences below

*Choose **NO MORE THAN TWO WORDS** from the passage 1 for each answer.*

- 1** Howlers stay in La Pacifica since their diet covers not only _____ but also other plants.
- 2** Leaves that feed animals in forests contain a wide range of dangerous chemical composition including tannins and _____.
- 3** Leaf-eaters may have a better ability to alleviate the toxin and take in the _____ exposed to certain chemical substance for a long time.
- 4** The _____ if they are rate of Howlers is relatively higher than that of spider monkeys and capuchin monkeys, which is just 2-4 years.
- 5** Resistance to continuous _____ in Guanacaste enables Howlers have a better adaptability than other monkey species.

Questions 6-9

Look at the following places and the list of descriptions below.

*Match each description with the correct place, **A-F**.*

- A** Hacienda La Pacifica
- B** Santa Rosa National Park
- C** Amazon Basin
- D** Estación de Biología Los Tuxtlas in Veracruz, Mexico
- E** Duke University
- F** Nicaragua and Costa Rica as well as in Mexico

- 6** Previous habitat of monkeys was replaced thoroughly by humans.
- 7** Estrada indicates that farmers need to change their attitude towards monkeys.
- 8** All three kinds of monkeys are living there as local species.
- 9** Howler is the only species here.

Questions 10-13

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

10 Compared to older forests, what is the advantage of younger forests?

- A** generate more energy
- B** produce more nutrition
- C** release less toxin
- D** grow more fruits

11 Unlike Howlers, capuchins described in Paragraph G

- A** are larger and heavier
- B** prefer to live in older forests
- C** are more likely to have lighter weight
- D** are more resilient

12 What does Fedigan say about the living patterns of spider monkeys?

- A** do activities on a large scale
- B** live within a small home range
- C** prefer to divide the habitat into small parts
- D** occupy a limited home area

13 What does Estrada think of the wild monkeys?

- A** Howler monkeys often forage in large farms.
- B** Coffee and cacao ranch is an ideal place for spider monkeys.
- C** Associating with monkeys may exert potential dangers to local farmers.
- D** Agricultural activities and protection of wildlife can be done simultaneously.

fruit	(deadly)poisons	leaf nutrients	reproduce	drought
D	F	B	A	C
C	A	D		

Questions 14-20

Reading passage 2 has seven paragraphs, A-G

Choose the correct heading for each paragraph from the list of headings below. Write the correct number, i-x, in boxes 14-20 on your answer sheet.

List of headings

- i. The best moment to migrate
- ii. The unexplained rejection of closer feeding ground

-
- iii. The influence of weather on the migration route
 - iv. Physical characteristics that allow birds to migrate
 - v. The main reason why birds migrate
 - vi. The best wintering grounds for birds
 - vii. Research findings on how birds migrate
 - viii. Successful migration despite trouble of wind
 - ix. Contrast between long-distance migration and short-distance migration
 - x. Mysterious migration despite lack of teaching

14 Paragraph A iv

15 Paragraph B v

16 Paragraph C ii

17 Paragraph D x

18 Paragraph E vii

19 Paragraph F i

20 Paragraph G viii

Migration of Birds

A Birds have many unique design features that enable them to perform such amazing feats of endurance. They are equipped with lightweight, hollow bones, intricately designed feathers providing both lift and thrust for rapid flight, navigation systems superior to any that man has developed, and an ingenious heat conserving design that, among other things, concentrates all blood circulation beneath layers of warm, waterproof plumage, leaving them fit to face life in the harshest of climates. Their respiratory systems have to perform efficiently during sustained flights at altitude, so they have a system of extracting oxygen from their lungs that far exceeds that of any other animal. During the later stages of the summer breeding season, when food is plentiful their bodies are able to accumulate considerable layers of fat, in order to provide sufficient energy for their long migratory flights.

B The fundamental reason that birds migrate is to find adequate food during the winter months when it is in short supply. This particularly applies to birds that breed in the

temperate and Arctic regions of the Northern Hemisphere, where food is abundant during the short growing season. Many species can tolerate cold temperatures if food is plentiful, but when food is not available they must migrate. However, intriguing questions remain.

C One puzzling fact is that many birds journey much further than would be necessary just to find food and good weather. Nobody knows, for instance, why British swallows, which could presumably survive equally well if they spent the winter in equatorial Africa, instead fly several thousands of miles further to their preferred winter home in South Africa Cape Province. Another mystery involves the huge migrations performed by arctic terns and mud flat-feeding shorebirds that breed close to Polar Regions. In general, the further north a migrant species breeds, the farther south it spends the winter. For arctic terns this necessitates an annual round trip of 25,000 miles. Yet, en route to their final destination in far-flung southern latitudes, all these individuals overfly other areas of seemingly suitable habitat spanning two hemispheres. While we may not fully understand birds' reasons for going to particular places, we can marvel at their feats.

D One of the greatest mysteries is how young birds know how to find the traditional wintering areas without parental guidance. Very few adults migrate with juveniles in tow, and youngsters may even have little or no inkling of their parents' appearance. A familiar example is that of the cuckoo, which lays its eggs in another species nest and never encounters its young again. It is mind boggling to consider that, once raised by its host species, the young cuckoo makes its own way to ancestral wintering grounds in the tropics before returning single-handed to northern Europe the next season to seek out a mate among its own kind. The obvious implication is that it inherits from its parents an inbuilt route map and direction-finding capability, as well as a mental image of what another cuckoo looks like. Yet nobody has the slightest idea as to how this is possible.

E Mounting evidence has confirmed that birds use the positions of the sun and stars to obtain compass directions. They seem also to be able to detect the earth's magnetic field, probably due to having minute crystals of magnetite in the region of their brains. However, true navigation also requires an awareness of position and time, especially when lost. Experiments have shown that after being taken thousands of miles over an unfamiliar landmass, birds are still capable of returning rapidly to nest sites. Such phenomenal powers are the product of computing a number of sophisticated cues, including an inborn map of the night sky and the pull of the earth's magnetic field. How the birds use their 'instruments' remains unknown, but one thing is clear: they see the world with a superior sensory perception to ours. Most small birds migrate at night and take their direction from the position of the setting sun. However, as well as seeing the sun go down, they also seem to see the plane of polarized light caused by it, which calibrates their compass. Traveling at night provides other benefits. Daytime predators are avoided and the danger of dehydration due to flying for long periods in warm, sunlit skies is reduced. Furthermore, at night the air is generally cool and less turbulent and so conducive to sustained, stable flight.

F Nevertheless, all journeys involve considerable risk, and part of the skill in arriving safely is setting off at the right time. This means accurate weather forecasting, and utilizing favorable winds. Birds are adept at both, and, in laboratory tests, some have been shown to detect the minute difference in barometric pressure between the floor and ceiling of a room. Often birds react to weather changes before there is any visible sign of them. Lapwings, which feed on grassland, flee west from the Netherlands to the British Isles, France and Spain at the onset of a cold snap. When the ground surface freezes the birds could starve. Yet they return to Holland ahead of a thaw, their arrival linked to a pressure change presaging an improvement in the weather.

G In one instance a Welsh Manx shearwater carried to America and released was back in its burrow on Skokholm Island, off the Pembrokeshire coast, one day before a letter announcing its release! Conversely, each autumn a small number of North American birds are blown across the Atlantic by fast-moving westerly tail winds. Not only do they arrive safely in Europe, but, based on ringing evidence, some make it back to North America the following spring, after probably spending the winter with European migrants in sunny African climes.

Questions 21-22

Choose TWO letters, A-E.

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

Which TWO of the following statements are true of bird migration?

A Birds often fly further than they need to.

B Birds traveling in family groups are safe.

C Birds flying at night need less water.

D Birds have much sharper eye-sight than humans.

E Only shorebirds are resistant to strong winds.

Questions 23-26

Complete the sentences below using NO MORE THAN TWO WORDS from the passage.

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

23 It is a great mystery that young birds like cuckoos can find their wintering grounds without ___parental guidance___.

24 Evidence shows birds can tell directions like a __compass__ by observing the sun and the stars.

25 One advantage for birds flying at night is that they can avoid contact with __day time predators__.

26 Laboratory tests show that birds can detect weather without __visual signs__.

磁疗 Magnet Therapy

文章大意：磁铁的运用主要是在医学上，从中国古代到现代到商用。讲其工作原理，然后一些例子和实验说明他很有用，但是仍然很有争议。

Heading:

段落配对第一段讲这个技术给人们的生活带来了一些变化。

第二段是这个技术的工作原理。

第三段是古时候的人怎么利用这个技术。

第四段是现代的医院应用情况

第五段是关于支持和反对这个技术的两方辩论。

第六段是一个具体的实验过程

最后一段没有让配对。

1-6 Heading (Key words)

A. commercial product

B. overview of how it works

C. early application

D. conditions of using it today

E. arguments for and against

F. experiment

多选题:

7、8 题多选：选择带有 improve eyesight) 和 younger appearance 的词选项

9、10 题多选：选择带 sex 和 no further evidence 的词选项

11、关于宇航员的：选择不利之处的那个，因为他说航天员回来就病了是因为磁场的作用。

12、关于国际组织（世界卫生组织说多少含量的磁疗是安全的）：no negative side effect
(原文: not harmful)

13、问作者的观点是哪个：选这个磁疗技术还需要 develop

文章内容	收音机的生产自动化过程。一开始说收音机制作耗费人力，引起的失败。自动化生产后，人们只需要前期输入和后期加工就可以完成。芯片的研究节省了劳动力。录音机的体积也变小，可供更多人使用。但自动化生产也带来了工人失业的弊端。
题型分布及参考答案	<p>1. 流程图填空7题：制作radio的过程</p> <p>2. Summary填空4题</p> <p>3. 单选题2题</p> <p>参考答案：</p> <p>流程图：生词较多，答案在第三四段，容易找</p> <p>(primitive) chip, girt, milling machine, robot hands, loudspeaker, valves, Melton Zinc</p>
	<p>Summary填空：</p> <p>为何自动化？因为cost太贵；因为有很多的(separate) components所以很麻烦；研究chip；后来重量lighter后，运费也变便宜了。</p> <p>单选：</p> <p>1. 推出这个radio后，工人们的反应？</p> <p>答案A： 他们担心这会带来就业率的降低（因为最后一段提及自动化影响工人就业，关键词有：expert's idealism, but worker different, labour force）</p> <p>2. 选文章标题，因为文章后半部分都在说遇到了很多冷遇 cooled ground, 所以答案是选an application of the automation in the early stage.</p>

蚂蚁教学古题

文章内容

讲了蚂蚁老师的故事。话说一个叫F 的人觉得蚂蚁可以通过 leader 和follower 进行教学，证据就是当一只蚂蚁发现好吃的的时

候，它会告诉其他蚂蚁而且再带其他蚂蚁的时候比它自己爬呀爬的数度慢老多了（好像是4 倍的时间）。后来就有一个叫C 的研究学者反对说这不是 teach，除非其他蚂蚁在当中真的学到啥了。。后来还有个叫H 的专家说了一个啥动物，妈妈会让孩子出来打会儿猎但是从不让它完成，以此说明不过是在锻炼孩子的independence 而非 teaching。后 来F 就不愿意了进行了一下小反驳。后来一个叫T 的科学家又发言了说把那蚂 蚁和人比较是很不对的。1-4 题题型为 TFNG，5-9 题为Matching 题，10-13 为 Multiple choices

1-4)

TFNG

1. Ant use some certain items to help locate the food. TRUE
2. 某人的观点在已经出版就立刻引起了人们的认可. FALSE
3. Animals' communication technology is the same to the human's communication technology. NOT GIVEN
4. Catheem mother teach their children to get food. TRUE

5-9) 人名理论配对

5. F---- two way education
6. H----不同意
7. T----上一代对下一代的方式
8. 最后一个人认为蚂蚁和人不能够相提并论
9. F 或者 H 中某个人的观点（回忆不完整）

10-13) Multiple choices

10. 大蚂蚁在小蚂蚁拿食物的时候跑的快
11. 大鸟喂小鸟食物
12. 小鸟用 tool 联系
13. 发出预警提醒同伴有敌人入侵

摩斯密码（旧）

文章标题	摩斯密码（旧）
文章大意	说 MORSE 发明 Telegraph 的事情 第一段（EXAMPLE），第二段，说他当时还是一个画家和 occasional

	<p>inventor , (TFNG 中说他当时已经是著名发明家 , FALSE) 然后这个什么电报什么的怎样就开始萌芽了 , 摩尔也同时发明了他的 , 但一直用了 12 年 , 他才从英政府那里取得了财政支持 , 建立了他的第一条 line , TFNG 中说他很努力地才取得了英政府的财政支援 , 选 TRUE。 HEADING 选了 the move of using codes to 表达信息 : 第三段 , 说摩尔的助手帮助他进行了一个改进 , HEADING 选了摩尔的 invention was developed , 很可能有人会把这个选作第二段的 HEADING , 我一开始也是这样选的 , 不过最后我认为应该是这样 ; 第四段 , 说另一种方法 , 容易操作 , 但是需要五个 (针什么的) 而摩尔只要一个 , HEADING 选了一个 advantage of 摩尔的发明 : 第五段 , 说群雄奋起发电报 , 成立了一个什么协会 , 不过摩尔没参加 , 到后来形成了两种协议 , HEADING 选了什么多种 standard and variation 的 : 第六段 , HEADING 选的摩尔的 CODE 在一种新技术中被 EXPANDED ; 第七段 , 1871 年摩尔退休大典 , 1872 年他就翘起辫子。然后世界各地风靡 MORSE CODE。 HEADING 就选摩尔 CODE reached 全世界。 最后的是 TFNG , 最后两题好象都是跟原文风马牛不相及 , 选了 NG。具体题目记不住了。</p>
题目类型	<p>LOH</p> <p>TFNG</p> <p>MC</p>
参考答案	<p>LOH : _</p> <p>先是 list of heading 第二段是说 the invention of more code. 摩尔 code 是怎么发现的就是说他是一根筋的家伙 , 无意中发明了摩尔 code。</p>

	<p>第三段是摩尔 code 的 advantage。我是差不多收卷时改的。因为段尾说摩尔 code 只用一根 line 而其它要用好几根。 第四段是说 electricity 的发明促进了摩尔 code 的普及。 第五段是说摩尔 code create many employment opportunities. 许多郊区的人得到了进入城市的 passport. 第六段说摩尔 code 的国际化。选 international 那一项 第七段是摩尔 code 虽然不用于电信但是在广播和航海还在运用 TFNG : _</p> <p>跟其他设计相比，摩斯密码的一大问题是人们不容易学 T</p> <p>摩尔是不是发明摩尔 code 之前就很有名 (F)</p> <p>摩尔是不是等了很久才得到大公司的支持 (NG)</p> <p>摩斯死于工作过度劳累 T</p>
--	--

Decision making and Happiness 决策论与幸福

配对

- 1 当物品匹配到他们的期望就结束交易 (transaction) **B. Satisficer 满足者**
- 2 当购物时买最贵的东西 **D. Neither of them**
- 3 考虑很多遍再做最后的决定 **A. Maximiser**
- 4 参加作者的问卷调查 **C. Both**

对错

- 5 随着社会的进步，更多的机会使我们的生活更好更幸福是 **FALSE**
- 6 调查发现不同性别的差异是 **NOT GIVEN**
- 7 失去的感觉比获得 (acquisition) 更强烈是 **TURE**
- 8 “足够好了”起了明显的作用在最大化者 (maximizer) 以最好的指标购买时是 **FALSE**
- 9 有一种相关性 (correlation) 在后悔的人和最大化者之间 **TURE**

选择

- 10 这篇文章的主题是
B 选择和幸福
- 11 根据问卷调查的结论，哪个是对的
A 最大化者少一些快乐
- 12 剧院售票的实验暗示了
D 人们会后悔如果他们的票没打折

13 作者对增加幸福感的建议
C 减少 (reduce) 选择或选项

A New Ice Age 新冰河世纪

选择

- 1 作者在强两段提到的画说明 **D.未来一个小的冰河世纪的可能性**
2 为什么穷人很难在下个寒冷期活下来 **C.因为移民似乎不可能为了这个理由去关闭边境**
3 为什么欧洲冬天的气温高于北美 **A.因为热气被风吹到了欧洲**

配对

- 4 快速的气候变化造成了很大的灾难 (disruption) **D.National Academy of Science**
5 大多数美国人没有为下个寒冷期做准备 **B.Terrence Joyce**
6 会议 (conference) 中提到一个海水变化的案例 **A.Bob Dickson**
7 全球变暖呼吁冰河世纪的出现 **B.Terrence Joyce**
8 气温不会跌到原来的水平 **C.William Curry**

填空

- 9 **heat** 蒸发
10 水变的 **denser** 而且下沉
11 深海现在被命名为 **Great Ocean Conveyor**
12 **freshwater** 增加
13 Gulf 气流限速 (slow down) 而且 **southward** 移动

Twin Study: Two of a kind 双胞胎研究

配对

- 1 在 Ohio 进行的研究 **J**
2 双胞胎的研究对医药的贡献 **D**
3 在有生命危险 (threatening) 的条件下进行的研究情况 **E**
4 双胞胎数据的相似点 (similarities) **B**
5 一个使研究不能信服的理由 **E**

填空

- 6 第一个进行关于双胞胎的研究的人叫 **Francis Galton**
7 双胞胎研究被年应用在 **1924** 年的医学研究

选择

- 8-10 Ohio, Maryland 个 Twinsburgh 的研究领域

A.Sense (感觉)

E.Sound (声音)

F.Boldness of men (人的胆量)

11-13 三个已经被证实的 (verified) 结果

A.没有异卵双胞胎

B.双胞胎的基因比不是的更接近

D.基因对吸烟的影响大于环境

邦迪海滩 Bondi Beach

Questions 1-5

判断题

1. The name of the Bondi beach was first called by the British settlers. F
2. The aboriginal culture in Australia is different when compared with European culture. NG
3. Bondi Beach area holds many contemporary hotels. NG
4. The seaside town in Bondi is affected by british culture for its characteristic red color. T
5. Living near Bondi seashore is not beneficial for health. F

Questions 6-9

简答题

6. At the end of 19th century, which public transport did people use to go to Bondi? train
7. When did the British royal first visit Bondi? 1954
8. Which Olympic event did Bondi hold in 2000 Sydney Olympic games? Beach volleyball
9. What would be damaged if the stadium was built for that Olympic event? environment

Questions 10-13

Bondi beach holds the feature sport activities every year, which attracts a lot of __wealthy people__ choosing to live at this place during holidays. But local accommodation cannot meet with the expanding population, a nearby town of __Manly__ is the first suburb site to support the solution. Yet people prefer __Bondi__ as their best choice. Its seaside buildings are well-known in the world for the special scenic colored __tiled roofs__ on building and joyful smell from the sea.

Finches on Islands

Questions 1-4 填空

year	climate	Finch's condition
1997	1_drought__	2_large seeds__
1985	3_heavy rains__	4_small seeds__

Questions 5-8 summary

5. Andrew and Jeffery Podos conducted a study on reversal __finch evolution__

-
6. Finches with __medium-sized bills__ flourished
 7. The study speculates that it is due to the growing __human__ population__
 8. Intermediate-size seeds into the area and the birds with __rice__ sometimes

Questions 9-13 判断

9. Grants' discovery has questioned Darwin's theory. F
10. The cactus finches are less affected by food than the medium ground finches. NG
11. In 2002 and 2003, all the birds were affected by the drought. T
12. The discovery of andrew was the same as that of the previous studies. F
13. It is shown that the revolution in finches on santa cruz is likely a response to human intervention. T

Traditional Farming System in Africa

Questions 1-4

1. In Luapula land allocating is in accordance with __need__
2. The citemene system provides the land with __ashes__
3. During the second season, the last planted crop is __cassava__
4. Under suitable condition, fruit trees are planted near __houses__

Questions 5-8

A fish

B oxen

C goats

5 be used in some unusual occasions, such as celebration C

6 cannot thrive for being affected by the pests B

7 be the largest part of creating profit A

8 be sold beyond the local area A

Questions 9-12 判断

10. People rarely use animals to cultivate land. T
11. When it is busy time, children usually took part in the labor force. NG
12. The local residents eat goats on a regular time. F

13. Though citemene has been a sophisticated system, it could not provide enough protein. T

Questions 13

14. What is the writer's opinion about the traditional ways of practice?

B They are not capable of providing adequate support to the population

The Accidental Scientists

i the origin of serendipity

ii Horace Walpole's fairy tale

iii arguments against

iv two basic knowledge in the paradox of scientific discovery

v the accidental evidences in and beyond science

vi organization's movement opposing against the authority

vii accident and mental preparation

viii planned research and anticipated outcome

ix the optimum balance between the two extremes

1. Paragraph A iv

2. Paragraph B ix

3. Paragraph C i

4. Paragraph D v

5. Paragraph E iii

6. Paragraph F vii

Questions 7-9 填空

7. The word 'serenity' was coined in the writing of __Horace Walpole__

8. He derived it from a __fairy tale__

9. The stem serendip was a former name for __Sri Lanka__

Questions 10-13

10. What does 'inductive' mean in paragraph A?

A observation without anticipation at the beginning

11. Scientific discovery should

C be between the two extremes

12. The writer mentions Luigi Galvani's observation to illustrate

B the happy accident in scientific discovery

13. Why does the writer mention the example in Yosemite Valley in paragraph G?

B to illustrate there is an unpredictable reality towards expectation

Eco-Resort Management Practices

Questions 1-5

1. The stradbroke became two islands

B by an explosion of dynamite on a ship and following nature erosion

2. Why are laundry activities for the resort carried out on the mainland

B in order to preserve the water and antipollution

3. What is the major water supplier in south stradbroke island is by

D boring ground water

4. What is applied for heating water on Couran Cove Island Resort

D the solar-power

5. What does, as the managers of resorts believe, the prospective future focus on

B sustainable administration and development in a long run

Questions 6-10

6. Tourists can attain the resort only by_ferry_

7. Within the resort, transports include trails for walking or tracks for both_bicycle_ and the beach train

8. The on-island equipment is old-fashioned which is barely working such as the _fan_

9. There is television, radio, an old_air conditioner__and a small fridge

10. And you can buy the repellent for_mosquito__

Questions 11-13

11-13. What is true as to the contemporary situation of Couran Cove Island Resort in the last paragraph?

A Couran Cove Island Resort goes for more eco-friendly practices

C Couran Cove Island Resort should raise the accommodation standard and build more facilities

E its carrying capacity will restrict the future business' expansion

Blue footed boobies

Questions 1-6

- i unusual way of hatching the chicks
- ii feeding habit of the red-footed booby
- iii folding wings for purpose
- iv rearing the young
- v classification of boobies
- vi diving for seafood
- vii surviving mechanism during the food shortage period
- viii mating and breeding
- ix origin of the booby's name

1. Paragraph A iv
2. Paragraph B v
3. Paragraph C ix
4. Paragraph D i
5. Paragraph E iv
6. Paragraph F vii

Questions 7-9

7. Boobies are afraid of human approaching. F
8. Female boobies eat more than the male ones. NG
9. When there is not sufficient food, the large chicks will be fed at the expense of the survival of its smaller mates. T

Questions 10-13

10. During the dance, the male will spread his wings and stamp his feet on the ground with his bills__skypointing__
11. The booby's unusual demeanor continues with ritual__nest-building__
12. The parental boobies incubate the eggs beneath their__webbed foot__which contain__13 blood vessels__to transmit the heat.

Environmentally-friendly Vehicles!

Questions 1-4

1. What does the author think of the factory in Sonora in Mexico where the Ford Fusion is manufactured?

B employment of US

2. In 1990s, what dropped in America for the environmentally friendly vehicles?

B attractiveness

3. What did GM notably send to engineering schools and museums?

A EV I

4. Nissan and GM high level leaders declared the real reason for the popularity of Roadster is its

C bursting demand

Questions 5-9

5. Some automakers mislead and suppressed the real demand for electric cars of keeping profit in certain market by luring the want of CARB. YES

6. Toyota started to sell 328 RAV4-EVs for taking up the market share. NO

7. In some countries, American auto-makers would like grab opportunity to earn money in vehicle of bigger litre engine cars rather than smaller ones. NG

8. Hybrids cars are superior vehicles that combine impression of an environmentally friendly electric power engine and lower price in unit sale. NO

9. An inspiration to make effort to produce hybrid cars is to coping with economic difficulties result from a declining market for GM. YES

Questions 10-14

10. __D__ was firstly introduced by Car maker Toyota in 1995.

11. Not only in Japan, but included other countries such as __B United Kingdom__

12. The first generation model is powered by __I gasoline-electricity__

13. The innovative NHW11 was Prius has considerably higher running velocity and __E longer distances__

14. Still, the load capacity of current Prius version was limited in its __G battery__

The Persuaders

Questions 1-3

1. What is the supermarket's purpose of using "basket" in paragraph B
2. What is the quality of a best salesman possessed according to this passage? A
3. What's the opinion of Richard Hession? D

Questions 4-9 段落细节

4. How do supermarkets distract consumers C
5. How to build a close relationship between salespeople and buyer J
6. People would be impressed by humor advertisement F
7. Methods for salespeople to get the order K
8. How questions work for salespeople K
9. Different customer groups bring different profits D

Questions 9-13

10. The width of __aisles__ in supermarket is broadened in order to generate the most profits.
11. Research from __experiments__, satisfying aromas can motivate people buy more products.
12. Loyal customers spend 30% more in their loved shops for everyday necessary __cosmetics__
13. Clothes shops use advertisements to make buyer think they are belonging to part of a __group__

Brunel

Questions 1-6

- A River Thames
- B Clifton Bridges
- C Atmosphere Railway
- D Great Britain
- E The Great Western
- F Great Western railway
- G The Great Eastern

-
1. The project of I.K. was not responsible for A
 2. The project had stopped due to inconveniences C
 3. The project was honored to yet not completed B
 4. The project had budget problem G
 5. Serious problem happened and delayed repeatedly G
 6. The first one to cross Atlantic Ocean in mankind history E

Questions 7-9 段落细节

7. There was a great ship setting the criteria for journey of ocean F
8. An ambitious project which seemed to be applied in an unplanned service later G
9. Brunel showed his talent of interpersonal skills C

Questions 10-13

10. The Great Eastern was designed with larger ship _
11. Carrying fuels and was to take long voyage to Australia _
12. The great ship never crossed Suez Canal _
13. The Great Eastern which was used to carry and to lay huge cables in Atlantic ocean

Ancient Chinese Chariots

答案:

1. When discovered, the written records of the grave goods proved to be accurate.
TRUE
2. Human skeletons in Anyang tomb were identified as soldiers who were killed in the war.
FALSE
3. The terracotta Army was discovered by people lived nearby by chance.
TRUE
4. The size of the King Tutankhamen's tomb is bigger than that of in Qin Emperors' tomb.
NOT GIVEN
5. The hub is made wood from the tree of Elm
6. The room through the hub was to put tempering axle in which is wrapped up by leather aiming to retain Lubricating oil
7. The number of spokes varied from Dish to Dish
8. The shape of wheel resembles a 18-30
9. Two Struts was used to strengthen the wheel.
10. Leather wrapped up the edge of the wheel aimed to remain Bronze

-
11. What body part of horse was released the pressure from to the shoulder? neck
 12. What kind road surface did the researchers measure the speed of the chariot? sand
 13. What part of his afterlife palace was the Emperor Qin Shi Huang buried? tomb complex

The Impact of Environment to Children

14. Genetic background from parents and family
15. To All of siblings
16. Less than 10% (或者 10 per cent)
17. Non-shared environment
18. 40% -50%
19. Impact from parents will frequently by Interrupt by the peers pressure.
20. It was also indicated that Variations of knowledge that children learned from other culture is increasing.
21. Study has found quantities of competing Interests between parents and children or even between parents themselves.
22. The more children there are in a family,the more impacts of environment it is. Not Given
23. Methods based on twin studies still meet unexpected differences that can not be ascribed to be purely genetic explanation. Yes
24. Children prefer to speak the language from the children of the same age to the language spoken by their parents. Not Given
25. The Study of non-shared environment influence can be a generally agreed idea among researchers in the field. NO
26. According to this passage,which comment is TURE about the current Study of non-shared environment influence to children. B.not sufficiently proved

Motivating Drives

27. According to the passage, what are we told about the study of motivation?

C Researchers have tended to be too theoretical to their study.

28. What can be inferred from the passage about the study of people's drives

A Satisfying employees' drives can positively lead to the change of behaviour.

29. According to paragraph three,in order to optimise employees' performance,_____are needed.

D financial incentive and recognition

30. According to paragraph five,how does "the drive to comprehend" help employees perform better?

B It can help employees feel their task is meaningful to their companies.

31. According to paragraph six,which of the following is true about "drive to defend"?

C Employees think it is very important to voice their own opinions.

32-34

32.A

32. E

33. F

- A** Employees will be motivated if they feel belonged to the company.
- B** If employees get an opportunity of training and development program, their motivation will be enhanced.
- C** If employees' working goals are complied with organisational objectives, their motivation will be reinforced.
- D** If employees' motivation is very low, companies should find a way to increase their salary as their first priority.
- E** If employees find their work lacking challenging, they will leave the company.
- F** Employees will worry if their company is sold.

35-40

- 35** Increasing pay can lead to the high work motivation.
- 36** Local companies benefit more from global companies through the study.
- 37** Employees achieve the most commitment if their drive to comprehend is met.
- 38** The employees in former company presented unusual attitude toward the merging of two companies.
- 39** The two studies are done to analyse the relationship between the natural drives and the attitude of employees.
- 40** Rewarding system cause the company to lose profit.

34. NO

35. NOTGIVEN

36. NO

37. YES

38. NO

39. NOTGIVEN

Rainwater Harvesting

- 1.What is the major way for local people make barely a support of living in Muthukandiya village?
crop production
- 2.Where can adult workers make extra money from in daytime?
Sugar-cane plantations

-
- 3.What have been dug to supply water for daily household life?
Three wells
- 4.In which year did the plan of a new project to lessen the effect of drought begin?
1998
- 5.Where do the gutters and pipes collect rainwater from?
Roofs of houses
- 6.What help family obtain more water for domestic needs than those relying on only wells and ponds?
Rainwater storage tanks
- 7.Most of the government's actions and other programmes have somewhat failed.
Not Given
- 8.Masons were trained for the constructing parts of the rainwater harvesting system.
Yes
- 9.The cost of rainwater harvesting systems was shared by local villagers and the local government
NO
- 10.Tanks increase both the amount and quality of the water for domestic use.
Yes
- 11.To send her daughter to school, a widow had to work for a job in rainwater harvesting scheme.
NO
- 12.Households benefited began to pay part of the maintenance or repairs.
YES
- 13.Training two masons at the same time is much more preferable to training single one.
Not Given
- 14.Other organizations had built tanks larger in size than the tanks built in Muthukandya.
NO

塑料的发展史Development of plastic materials

文章内容 就是先说是塑料是橡胶还有什么替代品,就有个人办了一个比赛说如果谁找出来了就给钱,就有个名字是 J 打头的人发明出来了,是个 C 的物质,这种物质是 可以用来做什么东西的,比如 knife handle 还有其他的东东,后面又说了 C 物质 最有名的产品是照片底片,后面几段都是再说塑料产品的不断演变,有一种塑料 加了其他的化学物就变成了尼龙,最后一段就是再说塑料虽然很 durable 但是很难降解,所以又研究了一种物质(此处有题),这种物质可以被细菌 bacteria 分解 biodegrade。把它加入塑料中就比较好等等 前几题是表格,很简单,就是填不同的塑料它的发明的国家,特性,应用,后几题是 T/F/NG

1-6) Filling the table

1. Perhaps celluloid's greatest impact was serving as the base for photographic film.
2. But the big breakthrough - arguably the birth of the modern plastics era - came in 1907, with the invention of bakelite (name of one kind of plastic) by the Belgian-born American Leo Baekeland.
3. 发现在英国 Britain

-
4. You can break a piece of Bakelite, but you can't melt it down to make it into something else, bakelite is fireproof.
5. 能够作用于 glass
6. Another was polystyrene, a hard, shiny plastic that could take on bright colors, remain crystalline clear, or be puffed up with air to become the foamy polymer DuPont later trademarked as Styrofoam. Polystyrene form 可以合成
- 7-9) T/F/NG
7. Rubber and plastic do not react to heat in the same way. FALSE
8. The more plastic you use the less likely it will change shape and be recyclable. TRUE
9. Adding starch does not increase durability. FALSE

Copying from neighbors

对错 5:

1. **True.** 昆虫会模仿蝴蝶的形态，文中说蝴蝶会被多种昆虫的物种模仿。
2. **Not Given.** 说 B D 两位科学家都在 E 这个地方学习研究，文中没有提及。
3. **False.** I 这种蝴蝶背后的花纹根据飞行高度决定的
4. **T**
5. **F**

段落匹配 5:

6. **G** 科学家抓蝴蝶的地方
7. **E**
8. **D** 科学家用食物来吸引蝴蝶
9. **F**
10. **H** 科学家验证花纹和高度的关系

选择题

11. **A**
12. **A**
13. **D**

生物多样性(biological biodiversity)

参考答案

1. 生物多样性的定义, 出了题目, 选 F, 因为题目中说包括环境, 而文中只提到生命体
 2. 生物多样性研究的范围, 提到了一个组织, 然后说有很多我们不知道的物种, 也说明不用全都研究(题目要求全研究中答 F)
 3. 媒体的过失-只关注大熊猫之类, 忽略了生物底层的 keystone 物种(填空)
 4. 举了一个 gip trees 的例子, 说明重要性
 5. 举了另外一个植物, Australia 澳大利亚(填空)的, 泛滥了不好
 6. 举了国家的一些措施(其中的 hardwood 出了 T/F 选 NG)
 7. 举了人民该干什么, 还有生态农业之类的 T
- 回忆不完整 等待贡献

Researcher on the Tree Crown(树冠研究)

You should spend about 20 minutes on Question 14–26 which are based on Reading Passage below.

A The forest canopy—the term given to the aggregated crowns of trees in a forest—is thought to host up to 40 per cent of all species, of which ten per cent could be unique to the forest roof. “We’re dealing with the richest, least known, most threatened habitat on Earth,” says Andrew Mitchell, the executive director of the Global Canopy Programme/ a collection of groups undertaking research into this lofty world. “The problem with our understanding of forests is that nearly all the information we have has been gleaned from just two meters above the soil, and yet we’re dealing with trees that grow to heights of 60 meters, or in the case of the tallest redwood 112 meters. It’s like doctors trying to treat humans by only looking at their feet.”

B Tropical rainforest comprises the richest of ecosystems, rivalled only by coral reef for its diversity and complex interrelationships. And a great deal of that diversity lives up in the canopy—an estimated 70–90 per cent of life in the rainforest exists in the trees; one in ten of all vascular plants are canopy dwellers; and about 20–25 per cent of all invertebrates are thought to be unique to the canopy.

C The first Briton to actually get into the canopy may have been Sir Francis Drake who, in 1573, gained his first glimpse of the Pacific Ocean from a tall tree in Darien, Panama. However, the first serious effort to reach and study the canopy didn’t begin until 1929. The Oxford University Expedition to British Guiana, led by Major RWG Hingston, still ended up help of locals when it came to building an observation platform. It was a successful expedition all the same, despite the colony’s acting governor getting stuck high up on a winched seat during a visit. In terms of canopy

access, the French have proved themselves to be excellent innovators, taking things further with the development of 'lighter-than-air platforms -balloons and related equipment, to you and me. Francis Halle; from the Laboratoire de Botanique Tropicale at Montpellier University took to a balloon in the mid-1980s in order to approach the canopy from above. His work in French Guiana was inspired by the use in Gabon of a tethered helium balloon by Marcel and Annette Hladick. Halle went one further by using a small purpose-built airship-a cigar-shaped balloon with propellers to aid manoeuvrability. "We suddenly had a mobile system that could move around the treetops; there was no other means of doing this," says Mitchell.

From this, two balloon-dependent features have developed: the radeau or raft, and the luge or sledge. The raft is a 'floating' platform, employed by French academics Dany Cleyet-Marrel and Laurent Pyot and is essentially an island in the treetops. Made of kevlar mesh netting and edged with inflated neoprene tubes, it rests on top of the canopy, allowing sampling (mostly of plants and insects) to take place at the edges of the platform, and can stay in position for several days. The luge, on the other hand, is an inflated hexagon similar to a traditional balloon basket but with a hole in the bottom covered with Kevlar mesh. Such techniques aren't without their problems, however, "balloons can cover larger areas, especially for collection purposes, but they are extremely expensive-Jibe raft alone cost 122,000 [euro] (86,000 [pounds sterling]) in 2001], but very effective because you can only reach the tops of the trees, and are highly dependent on the weather," says Dr Wilfried Morawetz, director of systematic botany at the University of Leipzig. "Balloons can usually only be used in the early morning for two to four hours. Last time, we could only fly three times during a whole week." Given these factors, it comes as no surprise that operations involving these balloons numbered just six between 1986 and 2001.

Smithsonian Tropical Research Institute in Panama. Smith had the idea of using a static crane to get into the treetops. Un-tethered balloons may allow widely distributed sites to be sampled, but cranes allow scientists to study an area of at least a hectare from soil to canopy throughout the year, year after year. "Cranes beat any other access mode. They are cheap, reliable and fast. In two minutes I can reach any point in our forest, which is essential for comparative measurements across species," says Professor Christian Korner of the University of Basel. Korner is using a static crane in a unique carbon dioxide-enrichment experiment in Switzerland, in an attempt to discover how forests might respond to the global increase in atmospheric carbon dioxide (see Swiss canopy-crane carbon experiment, right). For reasons of convenience,

cranes are generally situated close to cities or a research center. Leipzig University has a crane not far from the town, the location allowing scientists to study the effect of city pollutants on forests. In order to increase the amount of canopy a crane can access, some have been mounted on short rail tracks. In 1995, Dr Wilfried Morawetz was the first to use this technique, installing a crane on 150 meters of track in Venezuelan rainforest. "In my opinion, cranes should be the core of canopy research in the future," he says.

It appears that the rest of the scientific community has now come around to Mitchell's way of thinking. "I think most scientists thought him mad to consider such a complex field station at first," says internationally respected 'canopist' Meg Lowman, the executive director of the Marie Selby Botanical Gardens. "However, we've all come to realize that a combination of methods, a long-term approach to ecological studies and a collaborative approach are the absolute best ways to advance canopy science. A permanent canopy field station would allow that to happen." With a dedicated group of canopy scientists working together and a wide range of tools available for them to get into the treetops, we're now finally on our way towards a true understanding of the least-known terrestrial habitat.

Questions 14-18

The reading Passage has seven paragraphs A-F

Which paragraph contains the following information?

Write the correct letter A-F, in boxes 14-18 on your answer sheet

14. The Scientific significance for committing canopy study.
15. The first academic research attempt mentioned to get to the top canopy.
16. The overview idea of forest canopy and the problem of understanding the forests.
17. A recognition for a long term effect and cooperation.
18. An innovation accessing to treetop which proved to be an ultimate solution till now.

Questions 19-22

Summary

Complete the following summary of the paragraphs of Reading Passage, using No More than Two words from the Reading Passage for each answer. Write your answers in boxes 19–22 on your answer sheet.

Scientists keep trying new methods to access to the canopy of the treetop. Though early attempt succeeded in building an observation platform yet the help from the 19 was imperative; further innovators made by the French who built a platform with equipment by using 20 . Later, the ‘floating’ platform of 21 is serving as an island in the treetops. Then finally, there came the next major breakthrough in Panama. Scientists applied 22 to access to the treetops, which are proved to be the center of canopy research in today and in the future.

Questions 23– 27

Use the information in the passage to match the category (listed A–F) with opinions or deeds below. Write the appropriate letters A–F in boxes 23–27 on your answer sheet.

NB you may use any letter more than once

- A. Sir Francis Drake
- B. Wilfried Morawetz
- C. Dany Cleyet-Marrel
- D. Francis Halle
- E. Christian Korner
- F. Alan Smith

23. Scientist whose work was inspired by the method used by other researchers.

24. Scientist who made a claim that balloon could only be used in a limited frequency or time.

25. Scientist who initiated a successful access mode which is cheap and stable.

26. Scientist who had committed canopy-crane experiment for a specific scientific project.

27. Scientist who initiated the use of crane on the short rail tracks.

参考译文:

树冠的研究者

A

森林树冠层是用来描述森林中所有树冠总和的术语，是超过 40%生物物种的栖息地，其中 10%的物种是只生活在树冠上的。Global Canopy Programme 是专门研究树冠的组织，它的执行主席 Andrew Mitchell 说道：“我们正在研究地球上最丰富，最鲜为人知但是 又最受威胁的栖息地。我们对森林认识的问题在于几乎所有我们收集的信息只是从距离地面 2 米的地方获得的，但是我们却要以此研究关于距离地面 60 米高的树，或是最高达 112 米的红木这样的树木的问题。这就好比医生只能通过看病人的脚来治愈病人。”

B

热带雨林包含最丰富的生态系统，从生物多样性和生物之间关系的复杂性上来讲，只有珊瑚礁可以与之媲美。而其中大部分的多样性的生物都居住在树冠上，据估计雨林中 70%-90%的生物居住在树上，有十分之一的导管植物是生长在树冠层，大约 20%-25%的无脊椎动物只生活在树冠层。

C

第一个真正意义上进入树冠层进行研究的英国人是 Sir Francis Drake，他在 1573 年在巴拿马的 Darien 的一棵高树第一次看到了太平洋。但是第一个真正意义上的关于树冠的研究指导 1929 年才开始。Major RWG Hingston 领导的牛津大学科考队赴英属圭亚那进行考察，最终在需要建造一个观察平台时，他们还是向当地人进行了求助。这次科考总的来说还是很成功的，尽管代理领导者在坐着轿子参观的过程中被卡到悬在空中。就到达树冠这个层面而吉，法国人可以说是优秀的创新者，他们通过比空气还轻的平台也就是气球和相关的设备来运送东西。来自 Montpellier 大学热带植物研究所的 Francis Halle 在 1980 年代中期通过一个气球从空中到达树冠。他在法属圭亚那的工作收了 Marcel 和 Annette Hladic 在加蓬共和国氦气球的启发。Halle 更近一步，他乘坐了专门建造的一个小型的飞行器——长得像雪茄形状的气球，是靠螺旋桨来增加机动性的。Mitchell 说道：“我们突然有了一个可移动的系统来在树梢附近活动，除此别无他法。”

D

自此以后，两个以来气球的工具就产生了：筏子或是雪橇，筏子是“漂浮着的平台”，被法国学者 Danny Cleyet-Marrel 和 Laurent Pyot 应用在树顶的一个小岛上，是用橡胶渔网边缘配上充气的氯丁橡胶管子做成的。这个小筏子停留在树冠层的顶部，这样可以让生物抽样(主要是植物和昆虫)可以在平台的边缘停

留数日。在另一方面，雪橇呈充气六边形，和传统的气球篮子相似，在底部的中间有一个洞，上面覆盖着橡胶网，当然这种技术不是完美的。莱比锡大学系统植物研究所主任 Dr Wilfried Morawets 说道：“气球可以覆盖更大的区域，尤其是手机信息的时候，但是它们的造价非常高，Jibe 筏子造价 122,000 欧元(约合 86000 英镑，按 2001 年的汇率)虽然这种方式很有效，但是只能是研究人员到达顶部并且对天气的依赖性很强。气球只能在清早使用 2-4 小时，上周整整一周因为天气原因我们只能出去考察 3 次。”鉴于以上因素，就不难理解为什么在 1986 年和 2001 年间只存六次研究活动采用气球。

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接下来另一个重要的创新来自巴拿马 Smithsonian Tropical Research Institute 的 Alan Smith，他是采用一个静止的起重机来到达树冠。没有绳子拴着的气球能够大范围地采集样本，但是起重机可以让科学家年复一年地通年集中研究一公顷的范围内从土壤到树冠。Basel 大学的教授 Christian Korner 认为“起重机比其他任何一种方法都要好，它们好，它们又便宜有可靠而且快速。我可以在两分钟之内到达想要到达的森林的任何位置，这对于物种间的比较研究至关重要。”Christian Korner 在瑞士用充满二氧化碳的空气中用起重机进行一个实验。试图揭开森林将如何应对全球二氧化碳含量上升。为了简便起见，起重机一般都安置在靠近城市或是研究中心，莱比锡大学在离城镇不远的地方就有一个研究用的起重机，该地点可以让研究者对污染物对森林的影响进行研究。为了增加起重机能到达的树冠的数量，一些起重机放在短的铁轨上。在 1995 年，Dr Wilfried Morawets 是第一个采用这样技术的人，在 Venezuelan 雨林假期了 150 米的轨道。他说道：“在我看来，起重机将是未来研究树冠的核心工具。”

F

似乎进行树冠研究的其他人和 Mitchell 的观点一样，被组委“树冠学家”的 Madie Selby Botanical Gardens 的执行主任 Meg Lowan 说道：“期初许多科学家肯定认为 Mitchell 疯了才会想到建这样一个复杂的实地观察站。但是我们逐渐都点识到，将不同方法进行组合，从而能够用长期合作的方法来进行生态研究是推进树冠研究最好的方法。一个永久的树冠研究站能够做到这一点。”一群致力于研究树冠的科学家通力合作，运用一系列的工具到达树顶，从而可以真正了解最不为人知的陆地栖息地——树冠。”