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TEST 1. Reading Passage 1

Bamboo, A Wonder Plant

The wonder plant with an uncertain future: more than a billion people rely on bamboo for either their shelter or income, while many endangered species depend on it for their survival. Despite its apparent abundance, a new report says that species of bamboo may be under serious threat.

A. Every year, during the rainy season, the mountain gorillas of Central Africa migrate to the foothills and lower slopes of the Virunga Mountains to graze on bamboo. For the 650 or so that remain in the wild, it's a vital food source. Although they at almost 150 types of plant, as well as various insects and other invertebrates, at this time of year bamboo accounts for up to 90 per cent of their diet. Without it, says Ian Redmond, chairman of the Ape Alliance, their chances of survival would be reduced significantly. Gorillas aren't the only locals keen on bamboo. For the people who live close to the Virungas, it's a valuable and versatile raw material used for building houses and making household items such as mats and baskets. But in the past 100 years or so, resources have come under increasing pressure as populations have exploded and large areas of bamboo forest have been cleared to make way for farms and commercial plantations.

B. Sadly, this isn't an isolated story. All over the world, the ranges of many bamboo species appear to be shrinking, endangering the people and animals that depend upon them. But despite bamboo's importance, we know surprisingly little about it. A recent report published by the UN Environment Programme (UNEP) and the International Network for Bamboo and Rattan (INBAR) has revealed just how profound is our ignorance of global bamboo resources, particularly in relation to conservation. There are almost 1,600 recognized species of bamboo, but the report concentrated on the 1,200 or so woody varieties distinguished by the strong stems, or culms, that most people associate with this versatile plant. Of these, only 38 'priority species' identified for their commercial value have been the subject of any real scientific research, and this has focused mostly on matters relating to their viability as a commodity. This problem isn't confined to bamboo. Compared to the work carried out on animals, the science of assessing the conservation status of plants is still in its infancy. "People have only started looking hard at this during the past 10-15 years, and only now are they getting a handle on how to go about it systematically," says Dr Valerie Kapos, one of the report's authors and a senior advisor in forest ecology and conservation to the UNEP

C. Bamboo is a type of grass. It comes in a wide variety of forms, ranging in height from 30 centimeters to more than 40 meters. It is also the world's fastest-growing woody plant; some species can grow more than a meter in a day. Bamboo's ecological rote extends beyond providing food and habitat for animals. Bamboo tends to grow in stands made up of groups of individual plants that grow from root systems known as rhizomes. Its extensive rhizome systems, which tie in predicting the top layers of the

soil, are crucial in preventing soil erosion. And there is growing evidence that bamboo plays an important part in determining forest structure and dynamics. “Bamboo’s pattern of mass flowering and mass death leaves behind large areas of dry biomass that attract wildfire,” says Kapos. “When these bum, they create patches of open ground within the forest far bigger than would be left by a fallen tree.” Patchiness helps to preserve diversity because certain plant species do better during the early stages of regeneration when there are gaps in the canopy.

D. However, bamboo’s most immediate significance lies in its economic value. Modem processing techniques mean that it can be used in a variety of ways, for example, flooring and laminates. One of the fastest-growing bamboo products is paper -25 per cent of paper produced in India is made from bamboo fibre and in Brazil, 100,000 hectares of bamboo is grown for its production. Of course, bamboo’s main function has always been in domestic applications, and as a locally traded commodity, it’s worth about US$4.5billion annually. Because of its versatility, flexibility and strength (its tensile strength compares to that of some steel), it has traditionally been used in construction. Today, more than one billion people worldwide live in bamboo houses. Bamboo is often the only readily available raw material for people in many developing countries, says Chris Staple-ton, a research associate at the Royal Botanic Gardens. “Bamboo can be harvested from forest areas or grown quickly elsewhere, and then converted simply without expensive machinery or facilities,” he says. “In this way, it contributes substantially to poverty alleviation and wealth creation.”

E. Given bamboo’s value in economic and ecological terms, the picture painted by the UNEP report is all the more worrying. But keen horticulturists will spot an apparent contradiction here. Those who’ve followed the recent vogue for cultivating exotic species in their gardens will point out that if it isn’t kept in check, bamboo can cause real problems. “In a lot of places, the people who live with bamboo don’t perceive it as being endangered in any way,” says Kapos. “In fact, a lot of bamboo species are actually very invasive if they’ve been introduced.” So why are so many species endangered? There are two separate issues here, says Ray Townsend, vice president of the British Bamboo Society and arboretum manager at the Royal Botanic Gardens. “Some plants are threatened because they can’t survive in the habitat – they aren’t strong enough or there aren’t enough of them, perhaps. But bamboo can take care of itself – it is strong enough to survive if left alone. What is under threat is its habitat.” It is the physical disturbance that is the threat to bamboo, says Kapos. “When forest goes, it is converted into something else: there isn’t any-where for forest plants such as bamboo to grow if you create a cattle pasture.”

F. Around the world, bamboo species are routinely protected as part of forest eco-systems in national parks and reserves, but there is next to nothing that protects bamboo in the wild for its own sake. However, some small steps are being taken to address this situation. The UNEP-INBAR report will help conservationists to establish effective measures aimed at protecting valuable wild bamboo species.

Towns end, too, sees the UNEP report as an important step forward in promoting the cause of bamboo conservation. “Until now, bamboo has been perceived as a second-class plant.

When you talk about places such as the Amazon, everyone always thinks about the hardwoods. Of course, these are significant, but there is a tendency to overlook the plants they are associated with, which are often bamboo species. In many ways, it is the most important plant known to man. I can’t think of another plant that is used so much and is so commercially important in so many countries.” He believes that the most important first step is to get scientists into the field. “We need to go out there, look at these plants and see how they survive and then use that information to conserve them for the future.

Questions 1-7

Reading Passage 1 has six sections A-F.

Which section contains the following information?

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

NB You may use any letter more than once

1. The limited extent of existing research

2. Comparison of bamboo with other plant species

3. Commercial application of bamboo

4. Example of an animal which relies on bamboos for survival

5. The human activity that damaged large areas of bamboo

6. The approaches used to study bamboo

7. Bamboo helps the survival of a range of plants

Questions 8-11

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

Write the appropriate letters A-d in boxes 8-11 on your answer sheet.

NB you may use any letter more than once

A. Ian Redmond

B. Valerie Kapos

C. Ray Townsend

D. Chris Stapleton

8. Destroying bamboo jeopardizes to wildlife.

9. People have very confined knowledge of bamboo.

10. Some people do not think that bamboo is endangered.

11. Bamboo has loads of commercial potentials.

Questions 12-13

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

Write your answers in boxes 12-13 on your answer sheet

12. What problem does the bamboo's root system prevent?

13. Which bamboo product is experiencing market expansion

Reading Passage 2

Biodiversity

A. It seems biodiversity has become a buzzword beloved of politicians, conservationists, protesters and scientists alike. But what exactly is it? The Convention on Biological Diversity, an international agreement to conserve and share the planet's biological riches, provides a good working definition: biodiversity comprises every form of life, from the smallest microbe to the largest animal or plant, the genes that give them their specific characteristics and the ecosystems of which they are apart.

B. In October, the World Conservation Union (also known as the IUCN) published its updated Red List of Threatened Species, a roll call of 11,167 creatures facing extinction – 121 more than when the list

was last published in 2000. But the new figures almost certainly underestimate the crisis. Some 1.2 million species of animals and 270,000 species of plants have been classified, but the well-being of only a fraction has been assessed. The resources are simply not available. The RJCN reports that 5714 plants are threatened, for example, but admits that only 4 per cent of known plants have been assessed. And, of course, there are thousands of species that we have yet to discover. Many of these could also be facing extinction.

C. It is important to develop a picture of the diversity of life on Earth now so that comparisons can be made in the future and trends identified. But it isn't necessary to observe every single type of organism in an area to get a snapshot of the health of the ecosystem. In many habitats, there are species that are particularly susceptible to shifting conditions, and these can be used as indicator species.

D. In the media, it is usually large, charismatic animals such as pandas, elephants, tigers and whales that get all the attention when the loss of biodiversity is discussed. However, animals or plants far lower down the food chain are often the ones vital for preserving habitats – in the process saving the skins of those more glamorous species. These are known as keystone species.

E. By studying the complex feeding relationships within habitats, species can be identified that have a particularly important impact on the environment. For example, the members of the fig family are the staple food for hundreds of different species in many different countries, so important that scientists sometimes call figs "jungle burgers". A whole range of animals, from tiny insects to birds and large mammals, feed on everything from the tree's bark and leaves to its flowers and fruits. Many fig species have very specific pollinators. There are several dozen species of fig trees in Costa Rica, and a different type of wasp has evolved to pollinate each one. Chris Lyle of the Natural History Museum in London – who is also involved in the Global Taxonomy Initiative of the Convention on Biological Diversity – points out that if fig trees are affected by global warming, pollution, disease or any other catastrophe, the loss of biodiversity will be enormous.

F. Similarly, sea otters play a major role in the survival of giant kelp forests along the coasts of California and Alaska. These "marine rainforests" provide a home for a wide range of other species. The kelp itself is the main food of purple and red sea urchins and in turn, the urchins are eaten by predators, particularly sea otters. They detach an urchin from the seabed then float to the surface and lie on their backs with the urchin shell on their tummy, smashing it open with a stone before eating the contents. Urchins that are not eaten tend to spend their time in rock crevices to avoid the predators. This allows the kelp to grow – and it can grow many centimeters in a day. As the forests form, bits of kelp break off and fall to the bottom to provide food for the urchins in their crevices. The sea otters thrive hunting for sea urchins in the kelp, and many other fish and invertebrates live among the fronds. The problems start when the sea otter population declines. As large predators they are vulnerable – their numbers are relatively small so disease or human hunters can wipe them out. The result is that

the sea urchin population grows unchecked and they roam the seafloor eating young kelp fronds. This tends to keep the kelp very short and stops forests developing, which has a huge impact on biodiversity.

G. Conversely, keystone species can also make dangerous alien species: they can wreak havoc if they end up in the wrong ecosystem. The cactus moth, whose caterpillar is a voracious eater of prickly pear was introduced to Australia to control the rampant cacti. It was so successful that someone thought it would be a good idea to introduce it to the Caribbean islands that had the same problem. It solved the cactus menace, but unfortunately, some of the moths have now reached the US mainland – borne on winds and in tourists' luggage – where they are devastating the native cactus populations of Florida.

H. Organizations like the Convention on Biological Diversity work with groups such as the UN and with governments and scientists to raise awareness and fund research. A number of major international meetings – including the World Summit on Sustainable Development in Johannesburg this year – have set targets for governments around the world to slow the loss of biodiversity. And the CITES meeting in Santiago last month added several more names to its list of endangered species for which trade is controlled. Of course, these agreements will prove of limited value if some countries refuse to implement them.

I. There is cause for optimism, however. There seems to be a growing understanding of the need for sustainable agriculture and sustainable tourism to conserve biodiversity. Problems such as illegal logging are being tackled through sustainable forestry programs, with the emphasis on minimizing the use of rainforest hardwoods in the developed world and on rigorous replanting of whatever trees are harvested. CITES is playing its part by controlling trade in wood from endangered tree species. In the same way, sustainable farming techniques that minimize environmental damage and avoid monoculture.

J. Action at a national level often means investing in public education and awareness. Getting people like you and me involved can be very effective. Australia and many European countries are becoming increasingly efficient at recycling much of their domestic waste, for example, preserving natural resources and reducing the use of fossil fuels. This, in turn, has a direct effect on biodiversity by minimizing pollution, and an indirect effect by reducing the number of greenhouse gases emitted from incinerators and landfill sites. Preserving ecosystems intact for future generations to enjoy is obviously important, but biodiversity is not some kind of optional extra. Variety may be "the spice of life", but biological variety is also our life-support system.

Questions 14-20

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

In boxes 14-20 on your answer sheet, write

TRUE, if the statement is true
FALSE, if the statement is false
NOT GIVEN, if the information is not given in the passage

14. The term "biodiversity" consists of living creatures and the environment that they live in.

15. There are species that have not been researched because it's unnecessary to study all creatures.

16. It is not necessary to investigate all creatures in a certain place.

17. The press more often than not focuses on animals well-known.

18. There is a successful case that cactus moth plays a positive role in the US.

19. Usage of hardwoods is forbidden in some European countries.

20. Agriculture experts advise farmers to plant single crops in the field in terms of sustainable farming

Questions 21-26

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 21-26 on your answer sheet.

Because of the ignorance brought by media, people tend to neglect significant creatures called 21 ……..Every creature has diet connections with others, such as 22 ……. which provide a majority of foods for other species. In some states of America, the decline in the number of sea otters leads to the boom of 23 ……. An impressing case is that imported 24 successfully tackles the plant cacti in 25 ……. However, the operation is needed for the government to increase its financial support in 26 ……..

Reading Passage 3

Sunset for the Oil Business

The world is about to run out of oil. Or perhaps not. It depends on who you believe…

A. Members of the Department Analysis Centre (ODAC) recently met in London and presented technical data that support their grim forecast that the world is perilously close to running out of oil. Leading lights of this moment, including the geologist Colin Campbell, rejected rival views presented by the American geological survey and the international energy agency that contradicted their findings. Dr Campbell even decried the amazing display of ignorance, denial, and obfuscation by government, industry, and academics on this topic.

B. So is the oil really running out? The answer is easy: Yes. Nobody seriously disputes the notion that oil is, for all practical purposes, a non-renewable resource that will run out someday, be that years or decades away. The harder question is determining when precisely oil will begin to get scarce. And answering that question involves scaling Hubbert's peak.

C. M. King Hubbert, a Shell geologist of legendary status among depletion experts, forecast in 1956 that oil production in the United States would peak in the early 1970s and then slowly decline, in something resembling a bell-shaped curve. At the time, his forecast was controversial, and many rubbished it. After 1970, however, empirical evidence proved him correct: oil production in America did indeed peak and has been in decline ever since.

D. Dr Hubbert's analysis drew on the observation that oil production in a new area typically rises quickly at first, as the easiest and cheapest reserves are tapped. Over time, reservoirs age and go into decline, and so lifting oil becomes more expensive. Oil from that area then becomes less competitive in relation to other fuels, or to oil from other areas. As a result, production slows down and usually tapers off and declines. That, he argued, made for a bell-shaped curve.

E. His successful prediction has emboldened a new generation of geologists to apply his methodology on a global scale. Chief among them are the experts at ODAC, who worry that the global peak in production will come in the next decade. Dr. Campbell used to argue that the peak should have come already; he now thinks it is just around the comer. A heavyweight has now joined this gloomy chorus. Kenneth Deffeyes of Princeton University argues in a lively new book ("The View from Hubbert's Peak") that global oil production could peak as soon as 2004.

F. That sharply contradicts mainstream thinking. America's Geological Survey prepared an exhaustive study of oil depletion last year (in part to rebut Dr. Campbell's arguments) that put the peak of production some decades off. The IEA has just weighed in with its new "World Energy Outlook", which foresees enough oil to comfortably meet the demand to 2020 from remaining reserves. Rene Dahan, one of ExxonMobil's top managers, goes further: with an assurance characteristic of the world's largest energy company, he insists that the world will be awash in oil for another 70 years.

G. Who is right? In making sense of these wildly opposing views, it is useful to look back at the pitiful history of oil forecasting. Doomsters have been predicting dry wells since the 1970s, but so far the oil is still gushing. Nearly all the predictions for 2000 made after the 1970s oil shocks were far too pessimistic. America's Department of Energy thought that oil would reach $150 a barrel (at 2000 prices); even Exxon predicted a price of $ 100.

H. Michael Lynch of DRI-WEFA, an economic consultancy, is one of the few oil forecasters who has got things generally right. In a new paper, Dr. Lynch analyses those historical forecasts. He finds evidence of both bias and recurring errors, which suggests that methodological mistakes (rather than just poor data) were the problem. In particular, he faults forecasters who used Hubbert-style analysis for relying on fixed estimates of how much "ultimately recoverable" oil there really is below ground, in the industry's jargon: that figure, he insists, is actually a dynamic one, as improvements in infrastructure, knowledge, and technology raise the amount of oil which is recoverable.

I. That points to what will probably determine whether the pessimists or the optimists are right: technological innovation. The first camp tends to be dismissive of claims of forthcoming technological revolutions in such areas as deep-water drilling and enhanced recovery. Dr. Deffeyes captures this end-of-technology mindset well. He argues that because the industry has already spent billions on technology development, it makes it difficult to ask today for new technology, as most of the wheels have already been invented.

J. Yet techno-optimists argue that the technological revolution in oil has only just begun. Average recovery rates (how much of the known oil in a reservoir can actually be brought to the surface) are still only around 30-35%. Industry optimists believe that new techniques on the drawing board today could lift that figure to 50-60% within a decade.

K. Given the industry's astonishing track record of innovation, it may be foolish to bet against it. That is the result of adversity: the nationalizations of the 1970s forced Big Oil to develop reserves in expensive, inaccessible places such as the North Sea and Alaska, undermining Dr. Hubbert's assumption that cheap reserves are developed first. The resulting upstream investments have driven down the cost of finding and developing wells over the last two decades from over $20 a barrel to around $6 a barrel. The cost of producing oil has fallen by half, to under $4 a barrel.

L. Such miracles will not come cheap, however, since much of the world's oil is now produced in ageing fields that are rapidly declining. The IEA concludes that global oil production need not peak in the next two decades if the necessary investments are made. So how much is necessary? If oil companies are to replace the output lost at those ageing fields and meet the world's ever-rising demand for oil, the agency reckons they must invest $ 1 trillion in non-OPEC countries over the next decade alone. That's quite a figure.

Questions 27-31

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

In boxes 27-31 on your answer sheet, write

YES, if the statement agrees with the information
NO, if the statement contradicts the information
NOT GIVEN, if there is no information on this

27. Hubbert has a high-profile reputation amongst ODAC members.

28. Oil is likely to last longer than some other energy sources.

29. The majority of geologists believe that oil will start to run out sometime this decade.

30. Over 50 per cent of the oil we know about is currently being recovered.

31. History has shown that some of Hubbert's principles were mistaken.

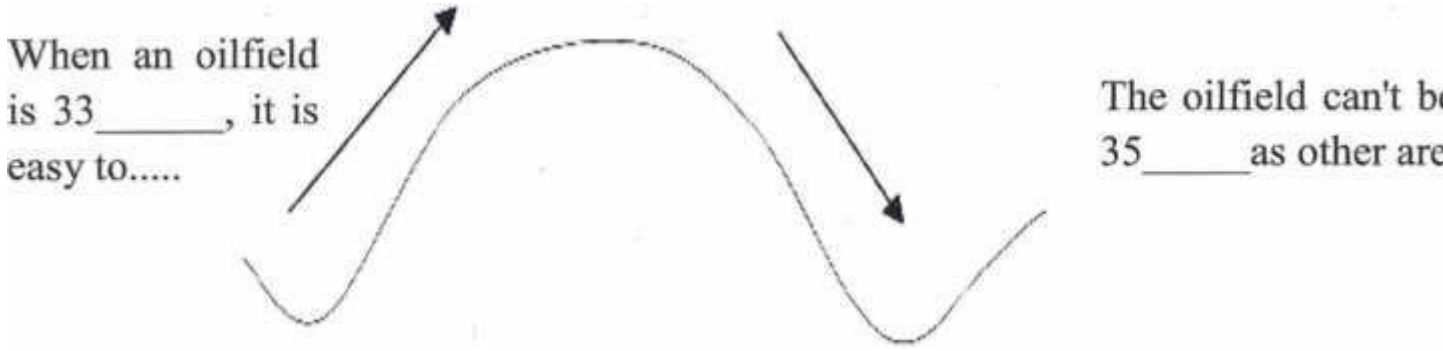
Question 32-35

Complete the notes below

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

Write your answers in boxes 32-35 on your answer sheet.

Many people believed Hubbert's theory was 32…….. when it was originally presented.
The recovery of the oil gets more 34 ……..as the reservoir gets older
When an aild field is 33……., it is easy to…….



The oil field can't be as 35…… as other areas

Questions 36-40

Look at the following statements (questions 36-40) and the list of people below.

Match each statement with the correct person, A-E.

Write the correct letter, A-E in boxes 36-40 on your answer sheet.

NB You may use any letter more than once.

36. has found fault in a geological research procedure

37. has provided the longest-range forecast regarding oil supply

38. has convinced others that oil production will follow a particular model

39. has accused fellow scientists of refusing to see the truth

40. has expressed doubt over whether improved methods of extracting oil are possible.

List of People

A. Colin Campbell

B. M. King Hubbert

C. Kenneth Deffeyes

D. Rene Dahan

E. Michael Lynch

Answers

Reading Passage 1

1. B

2. E

3. D

4. D

5. A

6. B

7. C

8. A

9. B

10. B

11. D

12. soil erosion

13. paper

Reading Passage 2

14. TRUE

15. FALSE

16. TRUE

17. TRUE

18. FALSE

19. NOT GIVEN

20. NOT GIVEN

21. keystone

22. Fig family/figs

23. Sea urchins (urchins)

24. cactus moth

25. Australia

26. Public education

Reading passage 3

27. YES

28. NOT GIVEN

29. NO

30. NO

31. YES

32. controversial

33. Tapped/(new)

34. Expensive

35. Competitive

36. E

37. D

38. B

39. A

40. C

TEST 2. Reading Passage 1

Organic Farming And Chemical Fertilizers

A. The world's population continues to climb. And despite the rise of high-tech agriculture, 800 million people don't get enough to eat. Clearly, it's time to rethink the food we eat and where it comes from. Feeding 9 billion people will take more than the same old farming practices, especially if we want to do it without felling rainforests and planting every last scrap of the prairie. Finding food for all those people will tax predicting farmers'—and researchers'—ingenuity to the limit. Yet already, precious aquifers that provide irrigation water for some of the world's most productive farmlands are drying up or filling with seawater, and arable land in China is eroding to create vast dust storms that redden sunsets as far away as North America. "Agriculture must become the solution to environmental problems in 50 years. If we don't have systems that make the environment better~not just hold the fort-then we're in trouble," says Kenneth Cassman, an agronomist at the University of Nebraska at Lincoln. That view was echoed in January by the Curry report, a government panel that surveyed the future of farming and food in Britain.

B. It's easy to say agriculture has to do better, but what should this friendly farming of the future look like? Concerned consumers come up short at this point, facing what appears to be an ever-widening ideological divide. In one corner are the techno-optimists who put their faith in genetically modified crops, improved agrochemicals, and computer-enhanced machinery; in the other are advocates of organic farming, who reject artificial chemicals and embrace back-to-nature techniques such as composting. Both sides cite plausible science to back their claims to the moral high ground, and both bring enough passion to the debate for many people to come away thinking we're faced with a stark choice between two mutually incompatible options.

C. Not so. If you take off the ideological blinkers and simply ask how the world can produce the food it needs with the least environmental cost, a new middle way opens. The key is sustainability: whatever we do must not destroy the capital of soil and water we need to keep on producing. Like today's organic farming, the intelligent farming of the future should pay much more attention to the health of its soil and the ecosystem it's part of. But intelligent farming should also make shrewd and locally appropriate use of chemical fertilizers and pesticides. The most crucial ingredient in this new style of agriculture is not chemicals but information about what's happening in each field and how to respond. Yet ironically, this key element may be the most neglected today.

D. Clearly, organic farming has all the warm, fuzzy sentiment on its side. An approach that eschews synthetic chemicals surely runs no risk of poisoning land and water. And its emphasis on building up natural ecosystems seems to be good for everyone. Perhaps these easy assumptions explain why sales of organic food across Europe are increasing by at least 50 per cent per year.

E. Going organic sounds idyllic-but it's naive, too. Organic agriculture has its own suite of environmental costs, which can be worse than those of conventional farming, especially if it were to become the world norm. But more fundamentally, the organic versus-chemical debate focuses on the wrong question. The issue isn't what you put into a farm, but what you get out of it, both in terms of crop yields and pollutants, and what condition the farm is in when you're done.

F. Take chemical fertilizers, which deliver nitrogen, an essential plant nutrient, to crops along with some phosphorus and potassium. It is a mantra of organic farming that these fertilizers are unwholesome, and plant nutrients must come from natural sources. But in fact, the main environmental damage done by chemical fertilizers as opposed to any other kind is through greenhouse gases-carbon dioxide from the fossil fuels used in their synthesis and nitrogen oxides released by their degradation. Excess nitrogen from chemical fertilizers can pollute groundwater, but so can excess nitrogen from organic manures.

G. On the other hand, relying solely on chemical fertilizers to provide soil nutrients without doing other things to build healthy soil is damaging. Organic farmers don't use chemical fertilizers, so they are very good at building soil fertility by working crop residues and manure into the soil, rotating with legumes that fix atmospheric nitrogen, and other techniques.

H. generates vital soil nutrients and also creates a soil that is richer in organic matter, so it retains nutrients better and is hospitable to the crop's roots and creatures such as earthworms that help maintain soil fertility. Such soil also holds water better and therefore makes more efficient use of both rainfall and irrigation water. And organic matter ties up C02 in the soil, helping to offset emissions from burning fossil fuels and reduce global warming.

I. Advocates of organic farming like to point out that fields managed in this way can produce yields just as high as fields juiced up with synthetic fertilizers. For example, Bill Liebhardt, a research manager at the Rodale Institute in Kutztown, Pennsylvania recently compiled the results of such comparisons for corn, wheat, soybeans, and tomatoes in the US and found that the organic fields averaged between 94 and 100 per cent of the yields of nearby conventional crops.

J. But this optimistic picture tells only half the story. Farmers can't grow such crops every year if they want to maintain or build soil nutrients without synthetic fertilizers. They need to alternate with soil-building crops such as pasture grasses and legumes such as alfalfa. So in the long term, the yield of staple grains such as wheat, rice and corn must go down. This is the biggest cost of organic farming. Vaclav Smil of the University of Manitoba in Winnipeg, Canada, estimates that if farmers worldwide gave up the 80 million tonnes of synthetic fertilizer they now use each year, total grain production would fall by at least half. Either farmer would have to double the amount of land they cultivate- at catastrophic cost to natural habitat –or billions of people would starve.

K. That doesn't mean farmers couldn't get by with less fertilizer. Technologically advanced farmers in wealthy countries, for instance, can now monitor their yields hectare by hectare, or even more finely, throughout a huge field. They can then target their fertilizer to the parts of the field where it will do the best, instead of responding to average conditions. This increases yield and decreases fertilizer use. Eventually, farmers may -incorporate long-term weather forecasts into their planning as well, so that they can cut back on fertilizer use when the weather is likely to make harvests poor anyway, says Ron Olson, an agronomist with Cargill Fertilizer in Tampa, Florida.

L. Organic techniques certainly have their benefits, especially for poor farmers. But strict "organic agriculture", which prohibits certain technologies and allows others, isn't always better for the environment. Take herbicides, for example. These can leach into waterways and poison both wildlife and people. Just last month, researchers led by Tyrone Hayes at the University of California at Berkeley found that even low concentrations of atrazine, the most commonly used weed killer in the US, can prevent frog tadpoles from developing properly.

Questions 1 – 4

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

Write the appropriate letters A-D in boxes 1-4 on your answer sheet.

A.Vaclav Smil

B. Bill Liebhardt

C. Kenneth Cassman

D. Ron Olson

1. The use of chemical fertilizer can be optimized by combining weather information.

2. Organic framing yield is nearly equal to traditional ones.

3. A better agricultural setting is a significant key to solve environmental tough nut.

4. Substantial production loss would happen in case all farmers shifted from using synthetic fertilizer.

Questions 5 – 9

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

In boxes 5-9 on your answer sheet, write

***YES**, if the statement agrees with the information*
***NO**, if the statement contradicts the information*
***NOT GIVEN**, if there is no information on this*

5. Increasing population, draining irrigation, eroding farmland push agricultural industry to extremity.

6. There are only two options for farmers; they use chemical fertilizer or natural approach.

7. Chemical fertilizer currently is more expensive than natural fertilizers.

8. In order to keep nutrients in the soil, organic farmers need to rotate the planting method.

9. "organic agriculture" is the way that environment-damaging technologies are all strictly forbidden.

Questions 10-13

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 10-13 on your answer sheet.

Several 10 …… approaches need to be applied in the order that the global population wouldn't go starved. A team called 11…… repeated the viewpoint of a scholar by a survey in British farming. More and more European farmers believe in 12……farming these years. The argument of organic against 13……seems in an inaccurate direction.

Reading Passage 2

You should spend about 20 minutes on Questions 14-26, which are based on Reading Passage 1 on the following pages.

The Pearl

A. Throughout history, pearls have held a unique presence within the wealthy and powerful. For instance, the pearl was the favoured gem of the wealthy during the Roman Empire. This gift from the sea had been brought back from the orient by the Roman conquests. Roman women wore pearls to

bed so they could be reminded of their wealth immediately upon waking up. Before jewellers learned to cut gems, the pearl was of greater value than the diamond. In the Orient and Persia Empire, pearls were ground into powders to cure anything from heart disease to epilepsy, with possible aphrodisiac uses as well. Pearls were once considered an exclusive privilege for royalty. A law in 1612 drawn up by the Duke of Saxony prohibited the wearing of pearls by the nobility, professors, doctors or their wives in an effort to further distinguish royal appearance. American Indians also used freshwater pearls from the Mississippi River as decorations and jewellery.

B. There are essentially three types of pearls: natural, cultured and imitation. A natural pearl (often called an Oriental pearl) forms when an irritant, such as a piece of sand, works its way into a particular species of oyster, mussel, or clam. As a defense mechanism, the mollusk secretes a fluid to coat the irritant. The layer upon layer of this coating is deposited on the irritant until a lustrous pearl is formed.

C. The only difference between natural pearls and cultured pearls is that the irritant is a surgically implanted bead or piece of shell called Mother of Pearl. Often, these shells are ground oyster shells that are worth significant amounts of money in their own right as irritant-catalysts for quality pearls. The resulting core is, therefore, much larger than in a natural pearl. Yet, as long as there are enough layers of nacre (the secreted fluid covering the irritant) to result in a beautiful, gem-quality pearl, the size of the nucleus is of no consequence to beauty or durability.

D. Pearls can come from either salt or freshwater sources. Typically, saltwater pearls tend to be higher quality, although there are several types of freshwater pearls that are considered high in quality as well. Freshwater pearls tend to be very irregular in shape, with a puffed rice appearance, the most prevalent. Nevertheless, it is each individual pearl's merits that determines value more than the source of the pearl. Saltwater pearl oysters are usually cultivated in protected lagoons or volcanic atolls. However, most freshwater cultured pearls sold today come from China. Cultured pearls are the response of the shell to a tissue implant. A tiny piece of mantle tissue from a donor shell is transplanted into a recipient shell. This graft will form a pearl sac and the tissue will precipitate calcium carbonate into this pocket. There are a number of options for producing cultured pearls: use freshwater or seawater shells, transplant the graft into the mantle or the gonad, add a spherical bead or do it non-beaded. The majority of saltwater cultured pearls are grown with beads.

E. Regardless of the method used to acquire a pearl, the process usually takes several years. Mussels must reach a mature age, which can take up to 3 years, and then be implanted or naturally receive an irritant. Once the irritant is in place, it can take up to another 3 years for the pearl to reach its full size. Often, the irritant may be rejected, the pearl will terrifically misshapen, or the oyster may simply die from disease or countless other complications. By the end of a 5 to 10-year cycle, only 50% of the oysters will have survived. And of the pearls produced, only approximately 5% are of substantial quality

for top jewellery makers. From the outset, a pearl farmer can figure on spending over $100 for every oyster that is farmed, of which many will produce nothing or die.

F. Imitation pearls are a different story altogether. In most cases, a glass bead is dipped into a solution made from fish scales. This coating is thin and may eventually wear off. One can usually tell an imitation by biting on it. Fake pearls glide across your teeth, while the layers of nacre on real pearls feel gritty. The Island of Mallorca (in Spain) is known for its imitation pearl industry. Quality natural pearls are very rare jewels. The actual value of a natural pearl is determined in the same way as it would be for other "precious" gems. The valuation factors include size, shape, and colour, quality of surface, orient, and lustre. In general, cultured pearls are less valuable than natural pearls, whereas imitation pearls almost have no value. One way that jewellers can determine whether a pearl is cultured or natural is to have a gem lab perform an x-ray of the pearl. If the x-ray reveals a nucleus, the pearl is likely a bead-nucleated saltwater pearl. If no nucleus is present, but irregular and small dark inner spots indicating a cavity are visible, combined with concentric rings of organic substance, the pearl is likely a cultured freshwater. Cultured freshwater pearls can often be confused for natural pearls which present as homogeneous pictures that continuously darken toward the surface of the pearl. Natural pearls will often show larger cavities where organic matter has dried out and decomposed. Although imitation pearls look the part, they do not have the same weight or smoothness as real pearls, and their luster will also dim greatly. Among cultured pearls, Akoya pearls from Japan are some of the most lustrous. A good quality necklace of 40 Akoya pearls measuring 7 mm in diameter sells for about $1,500, while a super- high-quality strand sells for about $4,500. Size, on the other hand, has to do with the age of the oyster that created the pearl (the more mature oysters produce larger pearls) and the location in which the pearl was cultured. The South Sea waters of Australia tend to produce the larger pearls; probably because the water along the coastline is supplied with rich nutrients from the ocean floor. Also, the type of mussel common to the area seems to possess a predilection for producing comparatively large pearls

G. Historically, the world's best pearls came from the Persian Gulf, especially around what is now Bahrain. The pearls of the Persian Gulf were naturally created and collected by breath-hold divers. The secret to the special lustre of Gulf pearls probably derived from the unique mixture of sweet and saltwater around the island. Unfortunately, the natural pearl industry of the Persian Gulf ended abruptly in the early 1930s with the discovery of large deposits of oil. Those who once dove for pearls sought prosperity in the economic boom ushered in by the oil industry. The water pollution resulting from spilt oil and indiscriminate over-fishing of oysters essentially ruined the once pristine pearl-producing waters of the Gulf. Today, pearl diving is practised only as a hobby. Still, Bahrain remains one of the foremost trading centres for high-quality pearls. In fact, cultured pearls are banned from the Bahrain pearl market, in an effort to preserve the location's heritage. Nowadays, the largest stock of natural pearls probably resides in India. Ironically, much of India's stock of natural pearls came originally from

Bahrain. Unlike Bahrain, which has essentially lost its pearl resource, traditional pearl fishing is still practised on a small scale in India.

Questions 14-17

Reading Passage 1 has seven paragraphs, A-G. Which paragraph contains the following information?

Write the correct letter A-G in boxes 1-4 on your answer sheet.

14. ancient stories around the pearl and customers

15. Difficulties in the cultivating process.

16. Factors can decide the value of natural pearls.

17. Different growth mechanisms that distinguish the cultured pearls from natural ones.

Questions 18 – 23

Complete the summary below

Choose a letter from A-K for each answer. Write them in boxes 5-10 on your answer sheet.

In ancient history, pearls have great importance within the rich and rulers, which was treated as a gem for women in 18…….. And pearls were even used as medicine and sex drug for people in 19…….. There are essentially three types of pearls: natural, cultured and imitation. Most freshwater cultured pearls sold today come from China while the 20…….. is famous for its imitation pearl industry. The country 21…… usually manufactures some of the glitteriest cultured ones while the nation such as 22…….. produces the larger sized pearl due to the favourable environment along the coastline. In the past, one country of 23 …….. in the Gulf produced the world's best pearls. Nowadays, the maJor remaining suppliers of the natural pearls belong to India

A. America

B. Ancient Rome

C. Australia

D. Bahrain

E. China

F. Japan

G. India

H. Korea

I. Mexico

J. Persia

K. Spain

Questions 24 – 27

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

In boxes 11-14 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

24. Often cultured pearl's centre is significantly larger than in a natural pearl.

25. Cultivated cultured pearls are generally valued the same as natural ones.

26. The size of pearls produced in Japan is usually of a smaller size than those who came from Australia.

27. Akoya pearls from Japan Glows more deeply than the South Sea pearls of Australia

Reading Passage 3

Scent Of Success

A. Innovation and entrepreneurship, in the right mix, can bring spectacular results and propel a business ahead of the pack. Across a diverse range of commercial successes, from the Hills Hoist clothesline to the Cochlear ear implant, it is hard to generalize beyond saying the creators tapped into something consumers could not wait to get their hands on. However, most ideas never make it to the

market. Some ideas that innovators are spruiking to potential investors include new water-saving showerheads, a keyless locking system, ping-pong balls that keep pollution out of rainwater tanks, making teeth grow from stem cells inserted in the gum, and technology to stop LPG tanks from exploding. Grant Kearney, chief executive of the Innovation Xchange, which connects businesses to innovation networks, says he hears of great business ideas that he knows will never get on the market. "Ideas by themselves are absolutely useless," he says. "An idea only becomes an innovation when it is connected to the right resources and capabilities."

B. One of Australia's latest innovation successes stems from a lemon-scented bath-room cleaner called Shower Power, the formula for which was concocted in a factory in Yatala, Queensland. In 1995, Tom Quinn and John Heron bought a struggling cleaning products business, OzKleen, for 250,000. It was selling 100 different kinds of cleaning products, mainly in bulk. The business was in bad shape, the cleaning formulas were ineffective and environmentally harsh, and there were few regular clients. Now Shower Power is claimed to be the top-selling bathroom cleaning product in the country. In the past 12 months, almost four million bottles of OzKleen's Power products have been sold and the company forecasts 2004 sales of 10 million bottles. The company's, sales in2003 reached $11 million, with 700k of business being exported. In particular, Shower Power is making big inroads on the British market.

C. OzKleen's turnaround began when Quinn and Heron hired an industrial chemist to revitalize the product line. Market research showed that people were looking for a better cleaner for the bathroom, universally regarded as the hardest room in the home to clean. The company also wanted to make the product formulas more environmentally friendly. One of Tom Quinn's sons, Peter, aged 24 at the time, began working with the chemist on the formulas, looking at the potential for citrus-based cleaning products. He detested all the chlorine-based cleaning products that dominated the market. "We didn't want to use chlorine, simple as that," he says. "It offers bad working conditions and there's no money in it." Peter looked at citrus ingredients, such as orange peel, to replace the petroleum by-products in cleaners. He is credited with finding the Shower Power formula. "The head," he says. The company is the recipe is in a vault somewhere and my sole owner of the intellectual property.

D. To begin with, Shower Power was sold only in commercial quantities but Tom Quinn decided to sell it in 750ml bottles after the constant "raves" from customers at their retail store at Beenleigh, near Brisbane. Customers were travelling long distances to buy supplies. Others began writing to OzKleen to say how good Shower Power was. "We did a dummy label and went to see Woolworths," Tom Quinn says. The Woolworths buyer took a bottle home and was able to remove a stain from her basin that had been impossible to shift. From that point on, she championed the product and OzKleen had its first super¬market order, for a palette of Shower Power worth $3000. "We were over the moon," says OzKleen's financial controller, Belinda McDonnell.

E. Shower Power was released in Australian supermarkets in 1997 and became the top-selling product in its category within six months. It was all hands on deck at the factory, labelling and bottling Shower Power to keep up with demand. OzKleen ditched all other products and rebuilt the business around Shower Power. This stage, recalls McDonnell, was very tough. "It was hand-to-mouth, cash flow was very difficult," she says. OzKleen had to pay new-line fees to supermarket chains, which also squeezed margins.

F. OzKleen's next big break came when the daughter of a Coles Myer executive 1 used the product while on holidays in Queensland and convinced her father that Shower Power should be in Coles supermarkets. Despite the product success, Peter Quinn says the company was wary of how long the sales would last and hesitate to spend money on upgrading the manufacturing process. As a result, he remembers long periods of working around the clock to keep up with orders. Small tanks were still being used so batches were small and bottles were labelled and filled manually. The privately-owned OzKleen relied on cash-flow to expand. "The equipment could not keep up with demand," Peter Quinn says. Eventually, a new bottling machine was bought for $50,000 in the hope of streamlining production, but he says: "We got ripped off." Since then he has been developing a new automated bottling machine that can control the amount of foam produced in the liquid so that bottles can be filled more effectively – "I love coming up with new ideas." The machine is being patented.

G. Peter Quinn says OzKleen's approach to research and development is open slather. "If I need it, I get me it. It is about doing something simple that no one else is doing. Most of these things are just sitting in front of people … it's just seeing the opportunities." With a tried and tested product, OzKleen is expanding overseas and developing more Power-brand household products. Tom Quinn, who previously ran a real estate agency, says: "We are competing with the same market all over the world; the (cleaning) products are sold everywhere." Shower Power, known as Bath Power in Britain, was launched four years ago with the help of an export development grand from the Federal Government. "We wanted to do it straight away because we realized we had the same opportunities worldwide." OzKleen is already number three in the British market, and the next stop is France. The Power range includes cleaning products for carpets, kitchens, and pre-wash stain removal. The Quinn and Heron families are still involved. OzKleen has been approached with offers to buy the company, but Tom Quinn says he is happy with things as they are. "We're having too much fun."

Questions 28-34

Reading Passage 1 has six paragraphs, A—G.

Which paragraph contains the following information?

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

NB You may use any letter more than once.

28. Description of one family member persuading another of selling cleaning products

29. An account of the cooperation of all factory staff to cope with a sales increase

30. An account of the creation of the formula of Shower Power

31. An account of buying the original OzKleen company

32. Description of Shower Power's international expansion

33. The reason for changing the packaging size of Shower Power

34. An example of some innovative ideas

Questions 35 – 38

Look at the following people and list of statements below.

Match each person with the correct statement

Write the correct letter A-E in boxes 8-11 on your answer sheet.

35. Grant Keamey

36. Tom Quinn

37. PeterQuinn

38. BelindaMcDonnell

List of statement

A. Described his story of selling his product to a chain store

B. Explained there was a shortage of money when sales suddenly increased

C. Believe innovations need support to succeed

D. Believes new products like Shower Power may incur risks

E. Says business won't succeed with innovations

Questions 39 – 40

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

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

39. Tom Quinn changed the bottle size to 750ml to make Shower Power

A. Easier to package.

B. Appealing to individual customers.

C. Popular in foreign markets.

D. Attractive to supermarkets.

40. Why did Tom Quinn decide not to sell OzKleen?

A. No one wanted to buy OzKleen.

B. New products were being developed in OzKleen.

C. He couldn't make an agreement on the price with the buyer.

D. He wanted to keep things unchanged.

Answers

1. D

2. B

3. C

4. A

5. YES

6. NO

7. NOT GIVEN

8. YES

9. NO

10. Farming

11. Curry

12. Natural/Organic

13. Chemical

Reading Passage 2

14. A

15. E

16. F

17. C

18. B

19. J

20. K

21. F

22. C

23. D

24. TRUE

25. FALSE

26. TRUE

27. NOT GIVEN

Reading Passage 3

28. F

29. E

30. C

31. B

32. G

33. D

34. A

35. C

36. A

37. D

38. B

39. B 40. D

TEST 3. Reading Passage 1

Copy Your Neighbour

A. There's no animal that symbolizes rainforest diversity quite as spectacularly as the tropical butterfly. Anyone lucky enough to see these creatures flitting between patches of sunlight cannot fail to be impressed by the variety of their patterns. But why do they display such colourful exuberance? Until recently, this was almost as pertinent a question as it had been when the 19th-century naturalists, armed only with butterfly nets and insatiable curiosity, battled through the rainforests. These early explorers soon realized that although some of the butterflies' bright colours are there to attract a mate, others are warning signals. They send out a message to any predators: "Keep off, we're predicting poisonous." And because wearing certain patterns affords protection, other species copy them. Biologists use the term 'mimicry rings' for these clusters of impostors and their evolutionary idol.

B. But here's the conundrum. "Classical mimicry theory says that only a single ring should be found in any one area," explains George Beccaloni of the Natural History Museum, London. The idea is that in each locality there should be just the one pattern that best protects its wearers. Predators would quickly learn to avoid it and eventually, all mimetic species in a region should converge upon it. "The fact that this is patently not the case has been one of the major problems in mimicry research," says Beccaloni. In pursuit of a solution to the mystery of mimetic exuberance, Beccaloni set off for one of the mega centres for butterfly diversity, the point where the western edge of the Amazon basin meets the foothills of the Andes in Ecuador. "It's exceptionally rich, but comparatively well collected, so I pretty much knew what was there, says Beccaloni. "The trick was to work out how all the butterflies were organized and how this related to mimicry."

C. Working at the Jatun Sacha Biological Research Station on the banks of the Rio Napo, Beccaloni focused his attention on a group of butterflies called ithomiines. These distant relatives of Britain's Camberwell Beauty are abundant throughout Central and South America and the Caribbean. They are famous for their bright colours, toxic bodies, and complex mimetic relationships. "They can comprise up to 85 per cent of the individuals in a mimicry ring and their patterns are mimicked not just by butterflies, but by other insects as diverse as damselflies and true bugs," says Philip DeVries of the Milwaukee Public Museum's Center for Biodiversity Studies.

D. Even though all ithomiines are poisonous, it is in their interest to evolve to look like one another because predators that learn to avoid one species will also avoid others that resemble it. This is known as Mullerian mimicry. Mimicry rings may also contain insects that are not toxic but gain protection by looking like a model species that is: an adaptation called Batesian mimicry. So strong is an experienced predator's avoidance response that even quite inept resemblance gives some protection. "Often there will be a whole series of species that mimic, with varying degrees of verisimilitude, a focal

or model species," says John Turner from the University of Leeds. "The results of these deceptions are some of the most exquisite examples of evolution known to science." In addition to colour, many mimic copy behaviours and even the flight pattern of their model species.

E. But why are there so many different mimicry rings? One idea is that species flying at the same height in the forest canopy evolve to look like one another. "It had been suggested since the 1970s that mimicry complexes were stratified by flight height," says DeVries. The idea is that wing colour patterns are camouflaged against the different patterns of light and shadow at each level in the canopy, providing the first line of defence, against predators." But the light patterns and wing patterns don't match very well," he says. And observations show that the insects do not shift in height as the day progresses and the light patterns change. Worse still, according to DeVries, this theory doesn't explain why the model species is flying at that particular height in the first place.

F. "When I first went out to Ecuador, I didn't believe the flight height hypothesis and set out to test it," says Beccaloni. "A few weeks with the collecting net convinced me otherwise. They really flew that way." What he didn't accept, however, was the explanation about light patterns. "I thought, if this idea really is true, and I can work out why it could help explain why there are so many different warning patterns in any one place. Then we might finally understand how they could evolve in such a complex way." The job was complicated by the sheer diversity of species involved at Jatun Sacha. Not only were there 56 ithomiine butterfly species divided among eight mimicry rings, but there were also 69 other insect species, including 34 day-flying moths and a damselfly, all in a 200-hectare study area. Like many entomologists before him, Beccaloni used a large bag-like net to capture his prey. This allowed him to sample the 2.5 meters immediately above the forest floor. Unlike many previous workers, he kept very precise notes on exactly where he caught his specimens.

G. The attention to detail paid off. Beccaloni found that the mimicry rings were flying at two quite separate altitudes. "Their use of the forest was quite distinctive," he recalls. "For example, most members of the clear-winged mimicry ring would fly close to the forest floor, while the majority of the 12 species in the tiger-winged ring fly high up." Each mimicry ring had its own characteristic flight height.

H. However, this being practice rather than theory, things were a bit fuzzy. "They'd spend the majority of their time flying at a certain height. But they'd also spend a smaller proportion of their time flying at other heights," Beccaloni admits. Species weren't stacked rigidly like passenger jets waiting to land, but they did appear to have preferred airspace in the forest. So far, so good, but he still hadn't explained what causes the various groups of ithomiines and their chromatic consorts to fly in formations at these particular heights.

I. Then Beccaloni had a bright idea. "I started looking at the distribution of ithomiine larval food plants within the canopy," he says. "For each one, I'd record the height to which the host plant grew and the

height above the ground at which the eggs or larvae were found. Once I got them back to the field station's lab, it was just a matter of keeping them alive until they pupated and then hatched into adults which I could identify."

Questions 1 – 5

The reading Passage has seven paragraphs A-I.

Which paragraph contains the following information?

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

NB You may use any letter more than once.

1. Criticism against flight height theory of butterfly

2. Explained why Beccaloni researched in Ecuador.

3. Different mimicry ring flies at different height

4. The method of catching butterfly by Beccaloni

5. Not all Mimicry patterns are toxic information sent out from insects.

Questions 6-11

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

In boxes 6-11 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

6. All butterflies' colours of the wing reflect the sense of warning to other predators.

7. Insects may imitate butterflies' wing patterns as well.

8. Flying the Altitude of a butterfly is determined by their food.

9. Beccaloni agreed with the flight height hypothesis and decide to reassure its validity.

10. Jatun Sacha has the riches diversity of breeds in the world.

11. Beecaloni has more detailed records on the location of butterfly collection than others.

Questions 12-13

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

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

12. Which is correct about butterflies' flight altitude?

A. Flight height theory already established

B. Butterfly always flies at a certain height

C. It is like the aeroplane's flying phenomenon

D. Each butterfly has its own favourable height

13. Which is correct about Beccaloni's next investigation after flight height?

A. Some certain statistics have already been collected

B. Try to find connections between larval height and adult ones

C. It's very difficult to raise butterfly larval

D. Different larval favours different kinds of trees

Reading Passage 2

What are you laughing at?

A. We like to think that laughing is the height of human sophistication. Our big brains let us see the humour in a strategically positioned pun, an unexpected plot twist or a clever piece of wordplay. But while joking and wit are uniquely human inventions, laughter certainly is not. Other creatures, including chimpanzees, gorillas, and even rats, chuckle. Obviously, they don't crack up at Homer Simpson or titter at the boss's dreadful jokes, but the fact that they laugh in the first place suggests that sniggers

and chortles have been around for a lot longer than we have. It points the way to the origins of laughter, suggesting a much more practical purpose than you might think.

B. There is no doubt that laughing typically involves groups of people. 'Laughter evolved as a signal to others – it almost disappears when we are alone,' says Robert Provine, a neuroscientist at the University of Maryland. Provine found that most laughter comes as a polite reaction to everyday remarks such as 'see you later', rather than anything particularly funny. And the way we laugh depends on the company we're keeping. Men tend to laugh longer and harder when they are with other men, perhaps as a way of bonding. Women tend to laugh more and at a higher pitch when men are present, possibly indicating flirtation or even submission.

C. To find the origins of laughter, Provine believes we need to look at the play. He points out that the masters of laughing are children, and nowhere is their talent more obvious than in the boisterous antics, and the original context plays,' he says. Well-known primate watchers, including Dian Fossey and Jane Goodall, have long argued that chimps laugh while at play. The sound they produce is known as a panting laugh. It seems obvious when you watch their behaviour – they even have the same ticklish spots as we do. But remove the context, and the parallel between human laughter and a chimp's characteristic pant laugh is not so clear. When Provine played a tape of the pant laughs to 119 of his students, for example, only two guessed correctly what it was.

D. These findings underline how chimp and human laughter vary. When we laugh the sound is usually produced by chopping up a single exhalation into a series of shorter with one sound produced on each inward and outward breath. The question is: does this pant laughter have the same source as our own laughter? New research lends weight to the idea that it does. The findings come from Elke Zimmerman, head of the Institute for Zoology in Germany, who compared the sounds made by babies and chimpanzees in response to tickling during the first year of their life. Using sound spectrographs to reveal the pitch and intensity of vocalizations, she discovered that chimp and human baby laughter follow broadly the same pattern. Zimmerman believes the closeness of baby laughter to chimp laughter supports the idea that laughter was around long before humans arrived on the scene. What started simply as a modification of breathing associated with enjoyable and playful interactions has acquired a symbolic meaning as an indicator of pleasure.

E. Pinpointing when laughter developed is another matter. Humans and chimps share a common ancestor that lived perhaps 8 million years ago, but animals might have been laughing long before that. More distantly related primates, including gorillas, laugh, and anecdotal evidence suggests that other social mammals may do too. Scientists are currently testing such stories with a comparative analysis of just how common, laughter is, among animals. So far, though, the most compelling evidence for laughter beyond primates comes from research done by Jaak Panksepp from Bowling Green State University, Ohio, into the ultrasonic chirps produced by rats during play and in response to tickling.

F. All this still doesn't answer the question of why we laugh at all. One idea is that if laughter and tickling originated as a way of sealing the relationship between mother and child. Another is that the reflex response to tickling is protective, alerting us to the presence of crawling creatures that might harm us or compelling us to defend the parts of our bodies that are most vulnerable in hand-to-hand combat. But the idea that has gained most popular in recent years is that laughter in response to tickling is a way for two individuals to signal and test their trust in one another. This hypothesis starts from the observation that although a little tickle can be enjoyable if it goes on too long it can be torture. By engaging in a bout of tickling, we put ourselves at the mercy of another individual, and laughing is a signal that our laughter is what makes it a reliable signal of trust according to Tom Flamson, a laughter researcher at the University of California, Los Angeles. 'Even in rats, laughter, tickle, play, and trust are linked. Rats chirp a lot when they play, 'says Flamson. 'These chirps can be aroused by tickling. And they get bonded to us as a result, which certainly seems like a show of trust.'

G. We'll never know which animal laughed the first laugh, or why. But we can be sure it wasn't in response to a prehistoric joke. The funny thing is that while the origins of laughter are probably quite serious, we owe human laughter and our language-based humour to the same unique skill. While other animals pant, we alone can control our breath well enough to produce the sound of laughter. Without that control, there would also be no speech – and no jokes to endure.

Questions 14 – 19

Look at the following research findings (questions 1-6) and the list of people below.

Match each finding with the correct person, A, B, C or D.

Write the correct letter, A, B, C or D, in boxes 1-6 on your answer sheet.

NB You may use any letter more than once.

A. Tom Flamson

B. Elke Zimmerman

C. Robert Provine

D. Jaak Panksepp

14. Babies and chimps produce similar sounds of laughter.

15. Primates are not the only animals who produce laughter Pan

16. Laughter also suggests that we feel safe and easy with others.

17. Laughter is a response to a polite situation instead of humour.

18. Animal laughter evolved before human laughter

19. Laughter is a social activity.

Questions 20 – 23

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

Write the correct letter, A-K, in boxes 7-10 on your answer sheet.

Some researchers believe that laughter first evolved out of 20……. An investigation has revealed that human and chimp laughter may have the same 21 …….. Besides, scientists have been aware that 22…… laugh, however, it now seems that laughter might be more widespread than once we thought. Although the reasons why humans started to laugh are still unknown, it seems that laughter may result from the 23…… we feel with another person

A. evolution

B. chirps

C. origins

D. voice

E. confidence

F. rats

G. primates

H. response

I. play

J. children

K. tickling

Questions 24 – 26

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

In boxes 11-13 on your answer sheet, write

TRUE, if the statement is true
FALSE, if the statement is false
NOT GIVEN, if the information is not given in the passage

24. Both men and women laugh more when they are with members of the same sex.

25. Primates lack sufficient breath control to be able to produce laughs the way humans do.

25. Chimpanzees produce laughter in a wider range of situations than rats do

Reading Passage 3

Memory Decoding

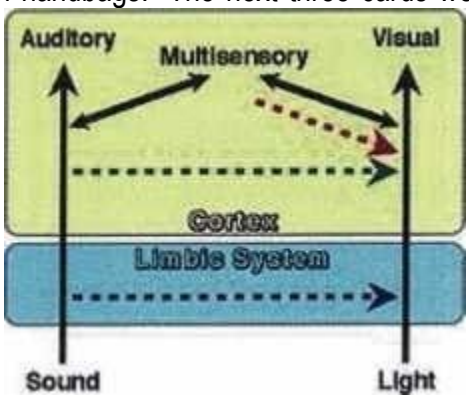
A. Try this memory test: Study each face and compose a vivid image for the person's first and last name Rose Leo, for example, could be a rosebud and a lion. Fill in the blanks on the next page. The Examinations School at Oxford University is an austere building of oak-panelled rooms, large Gothic windows, and looming portraits of eminent dukes and earls. It is where generations of Oxford students have tested their memory on final exams, and it is where, last August, 34 contestants gathered at the World Memory Championships to be examined in an entirely different manner.

B. In timed trials, contestants were challenged to take at and then recite a two-page poem, memorize rows of 40-digit numbers, recall the names of 110 people after looking at their photographs, and perform seven other feats of extraordinary retention. Some tests took just a few minutes; others lasted hours. In the 14 years since the World Memory Championships was founded, no one has memorized the order of a shuffled deck of playing cards in less than 30 seconds. That nice round number has become the four-minute mile of competitive memory, a benchmark that the world's best "mental athletes," as some of them like to be called are closing in on. Most contestants claim to have just average memories, and scientific testing confirms that they're not just being modest. Their feats are based on tricks that capitalize on how the human brain encodes information. Anyone can learn them.

C. Psychologists Elizabeth Valentine and John Wilding, authors of the monograph Superior Memory, recently teamed up with Eleanor Maguire, a neuroscientist at University College London to study eight

people, including Karsten, who had finished near the top of the World Memory Championships. They wondered if the contestants' brains were different in some way. The researchers put the competitors and a group of control subjects into an MRI machine and asked them to perform several different memory tests while their brains were being scanned. When it came to memorizing sequences of three-digit numbers, the difference between the memory contestants and the control subjects was, as expected immense. However, when they were shown photographs of magnified snowflakes, images that the competitors had never tried to memorize before, the champions did no better than the control group. When the researchers analyzed the brain scans, they found that the memory champs were activating some brain regions that were different from those the control subjects were using. These regions, which included the right posterior hippocampus, are known to be involved in visual memory and spatial navigation.

D. It might seem odd that the memory contestants would use visual imagery and spatial navigation to remember numbers, but the activity makes sense when their techniques are revealed Cooke, a 23-year-old cognitive-science graduate student with a shoulder-length mop of curly hair, is a grandmaster of brain storage. He can memorize the order of 10 decks of playing cards in less than an hour or one deck of cards in less than a minute. He is closing in on the 30-second deck. In the Lamb and Flag, Cooke pulled out a deck of cards and shuffled it. He held up three cards—the 7 of spades, the queen of clubs, and the 10 of spades. He pointed at a fireplace and said: "Destiny's Child is whacking Franz Schubert with handbags." The next three cards were the king of hearts, the king of spades, and the jack of clubs.



E. How did he do it? Cooke has already memorized a specific person, verb, and object that he associates with each card in the deck. For example, for the 7 of spades, the person (or, in this case, persons) is always the singing group Destiny's Child the action is surviving a storm, and the image is a dinghy. The queen of clubs is always his friend Henrietta, the action is thwacking with a handbag, and the image is of wardrobes filled with designer clothes. When Cooke commits a deck to memory, he does it three cards at a time. Every three-card group forms a single image of a person doing something to an object. The first card in the triplet becomes the person, the second the verb, the third the object. He then places those images along a specific familiar route, such as the one he took through the Lamb and Flag. In competitions, he uses an imaginary route that he has designed to be as smooth and

downhill as possible. When it comes time to recall Cooke takes a mental walk along his route and translates the images into cards. That's why the MRIs of the memory contestants showed activation in the brain areas associated with visual imagery and spatial navigation.

F. The more resonant the images are, the more difficult they are to forget. But even meaningful information is hard to remember when there's a lot of it. That's why competitive memorizers place their images along an imaginary route. That technique, known as the toci method reportedly originated in 477 B.C. with the Greek poet Simonides of Ceos. Simonides was the sole survivor of a roof collapse that killed all the other guests at a royal banquet. The bodies were mangled beyond recognition, but Simonides was able to reconstruct the guest list by closing his eyes and recalling each individual around the dinner table. What he had discovered was that our brains are exceptionally good at remembering images and spatial information. Evolutionary psychologists have explained: Presumably, our ancestors found it important to recall where they found their last meal or the way back to the cave. After Simonides' discovery, the loci method became popular across ancient Greece as a trick for memorizing speeches and texts. Aristotle wrote about it, and later a number of treatises on the art of memory were published in Rome. Before printed books, the art of memory was considered a staple of classical education, on a par with grammar, logic, and rhetoric.

G. The most famous of the naturals was the Russian journalist S. V. Shereshevski, who could recall long lists of numbers memorized decades earlier, as well as poems, strings of nonsense syllables, and just about anything else he was asked to remember. "The capacity of his memory had no distinct limits," wrote Alexander Luria, the Russian psychologist who studied Shereshevski from the 1920s to the 1950s. Shereshevski also had synesthesia, a rare condition in which the senses become intertwined For example, every number may be associated with a colour or every word with a taste. Synesthetic reactions evoke a response in more areas of the brain, making memory easier.

H. K. Anders Ericsson, a Swedish-born psychologist at Florida State University, thinks anyone can acquire Shereshevski's skills. He cites an experiment with S. F., an undergraduate who was paid to take a standard test of memory called the digit span for one hour a day, two or three days a week. When he started, he could hold, like most people, only about seven digits in his head at any given time (conveniently, the length of a phone number). Over two years, S. F. completed 250 hours of testing. By then, he had stretched his digit span from 7 to more than 80. The study of S. F. led Ericsson to believe that innately superior memory doesn't exist at alL When he reviewed original case studies of naturals, he found that exceptional memorizers were using techniques—sometimes without realizing it—and lots of practice. Often, exceptional memory was only for a single type of material, like digits. "If we look at some of these memory tasks, they're the kind of thing most people don't even waste one-hour practising, but if they wasted 50 hours, they'd be exceptional at it," Ericsson says. It would be remarkable, he adds, to find a "person who is exceptional across a number of tasks. I don't think that there's any compelling evidence that there are such people."

Questions 27-31

The reading Passage has seven paragraphs A-G.

Which paragraph contains the following information?

Write the correct letter A-G, in boxes 27-30 on your answer sheet.

27. The reason why the competence of super memory is significant in academic settings

28. Mention of a contest for extraordinary memory held in consecutive years

29. A demonstrative example of extraordinary person did an unusual recalling game

30. A belief that extraordinary memory can be gained through enough practice

31. A depiction of the rare ability which assists the extraordinary memory reactions

Questions 32-36

Complete the following summary of the paragraphs of Reading Passage, using no more than three words from the Reading Passage for each answer.

Write your answers in boxes 32-36 on your answer sheet.

Using visual imagery and spatial navigation to remember numbers are investigated and explained. A man called Ed Cooke in a pub, spoke a string of odd words when he held 7 of the spades (the first one of any cards group) was remembered as he encoded it to a 32. _____ and the card deck to memory is set to be one time of an order of 33 _____; When it comes time to recall, Cooke took a 34. _____along his way and interpreted the imaginary scene into cards. This superior memory skill can be traced back to Ancient Greece, the strategy was called 35. _____which had been a major subject was in ancient 36. _____.

Questions 37-38

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

Write your answers in boxes 37-38 on your answer sheet.

According to World Memory Championships, what activities need good memory?

A. order for a large group of each digit

B. recall people's face

C. resemble a long Greek poem

D. match name with pictures and features

E. recall what people ate and did yesterday

Questions 39-40

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

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

What is the result of Psychologists Elizabeth Valentine and John Wilding's MRI Scan experiment find out?

A. the champions ' brains are different in some way from common people

B. the difference in the brain of champions' scan image to control subjects are shown when memorizing sequences of three-digit numbers

C. champions did much worse when they are asked to remember photographs

D. the memory-champs activated more brain regions than control subjects

E. there is some part in the brain coping with visual and spatial memory

Answers

Reading Passage 1

1. E

2. B

3. G

4. F

5. D

6. FALSE

7. TRUE

8. NOT GIVEN

9. FALSE

10. NOT GIVEN

11. TRUE

12. D

13. B

Reading Passage 2

14. B

15. D

16. A

17. C

18. B

19. C

20. I

21. C

22. G

23. E

24. NOT GIVEN

25, TRUE

26. NOT GIVEN

Reading Passage 3

27. E

28. A

29. C

30. G

31. F

32. specific person

33. three cards/3 cards

34. mental walk

35. loci method

36. Education

37. A

38. D, 39. B, 40. E

TEST 4. SECTION 1

Coastal Archaeology of Britain

AThe recognition of the wealth and diversity of England's coastal archaeology has been one of the most important developments of recent years. Some elements of this enormous resource have long been known. The so-called 'submerged forests' off the coasts of England, sometimes with clear evidence of human activity, had attracted the interest of antiquarians since at least the eighteenth century but serious and systematic attention has been given to the archaeological potential of the coast only since the early 1980s.

B It is possible to trace a variety of causes for this concentration of effort and interest In the 1980s and 1990s scientific research into climate change and its environmental impact spilled over into a much broader public debate as awareness of these issues grew; the prospect of rising sea levels over the next century, and their impact on current coastal environments, has been a particular focus for concern. At the same time archaeologists were beginning to recognize that the destruction caused by natural processes of coastal erosion and by human activity was having an increasing impact on the archaeological resource of the coast.

C The dominant process affecting the physical form of England in the post- glacial period has been the rise in the altitude of sea level relative to the land, as the glaciers melted and the landmass readjusted. The encroachment of the sea, the loss of huge areas of land now under the North Sea and the English Channel, and especially the loss of the land bridge between England and France, which finally made Britain an island, must have been immensely significant factors in the lives of our prehistoric ancestors. Yet the way in which prehistoric communities adjusted to these environmental changes has seldom been a major theme in discussions of the period. One factor contributing to this has been that, although the rise in relative sea level is comparatively well documented, we know little about the constant reconfiguration of the coastline. This was affected by many processes, mostly quiet, which have not yet been adequately researched. The detailed reconstruction of coastline histories and the changing environments available for human use will be an important theme for future research.

D So great has been the rise in sea level and the consequent regression of the coast that uch of the archaeological evidence now exposed in the coastal zone, whether being eroded or exposed as a buried land surface, is derived from what was originally terres-trial occupation. Its current location in the coastal zone is the product of later unrelated processes, and it can tell us little about past adaptations to the sea. Estimates of its significance will need to be made in the context of other related evidence

from dry land sites. Nevertheless, its physical environment means that preservation is often excellent, for example in the case of the Neolithic structure excavated at the Stumble in Essex.

E In some cases these buried land surfaces do contain evidence for human exploitation of what was a coastal environment, and elsewhere along the modem coast there is similarevidence. Where the evidence does relate to past human exploitation of the resources and the opportunities offered by the sea and the coast, it is both diverse and as yet little understood. We are not yet in a position to make even preliminary estimates of answers to such fundamental questions as the extent to which the sea and the coast affected human life in the past, what percentage of the population at any time lived within reach of the sea, or whether human settlements in coastal environments showed a distinct character from those inland.

F The most striking evidence for use of the sea is in the form of boats, yet we still have much to learn about their production and use. Most of the known wrecks around our coast are not unexpectedly of post-medieval date, and offer an unparalleled opportunity for research which has as yet been little used. The prehistoric sewn-plank boats such as those from the Humber estuary and Dover all seem to belong to the second millennium BC; after this there is a gap in the record of a millennium, which cannot yet be explained, before boats reappear, but built using a very different technology. Boatbuilding must have been an extremely important activity around much of our coast, yet we know almost nothing about it, Boats were some of the most complex artefacts produced by pre-modem societies, and further research on their production and use make an important contribution to our understanding of past attitudes to technology and technological change.

G Boats needed landing places, yet here again our knowledge is very patchy In many cases the natural shores and beaches would have sufficed, leaving little or no archaeological trace, but especially in later periods, many ports and harbors, as welJ as smaller facili- ties such as quays, wharves, and jetties, were built. Despite a growth of interest in the waterfront archaeology of some of our more important Roman and medieval towns, very little attention has been paid to the multitude of smaller landing places. Redevelopment of harbor sites and other development and natural pressures along the coast are subject- ing these important locations to unprecedented threats, yet few surveys of such sites have been undertaken.

H One of the most important revelations of recent research has been the extent ofindustrial activity along the coast. Fishing and salt production are among the better documented activities, but even here our knowledge is patchy Many forms of fishing will eave little archaeological trace, and one of the surprises of recent survey has been the extent of past investment in facilities for procuring fish and shellfish. Elaborate wooden fish weirs, often of considerable extent and responsive to aerial photography in shallow water, have been identified in areas such as Essex and the Severn estuary. The production of salt, especially in the late Iron Age and early Roman periods, has been recognized

for some time, especially in the Thames estuary and around the Solent and Poole Harbor, but the reasons for the decline of that industry and the nature of later coastal salt working are much less well understood. Other industries were also located along the coast, either because the raw materials outcropped there or for ease of working and transport: mineral resources such as sand, gravel, stone, coal, ironstone, and alum were all exploited. These industries are poorly documented, but their mains are sometimes extensive and striking.

I Some appreciation of the variety and importance of the archaeological remains preserved in the coastal zone, albeit only in preliminary form, can thus be gained from recent work, but the complexity of the problem of managing that resource is also being realised. The problem arises not only from the scale and variety of the archaeological remains, but also from two other sources: the very varied natural and human threats to the resource, and the complex web of organisations with authority over, or interests in, the coastal zone. Human threats include the redevelopment of historic towns and old dockland areas, and the increased importance of the coast for the leisure and tourism industries, resulting in pressure for the increased provision of facilities such as marinas. The larger size of ferries has also caused an increase in the damage caused by their wash to fragile deposits in the intertidal zone. The most significant natural threat is the predicted rise in sea level over the next century especially in the south and east of England. Its impact on archaeology is not easy to predict, and though it is likely to be highly localised, it will be at a scale much larger than that of most archaeological sites. Thus protecting one site may simply result in transposing the threat to a point further along the coast. The management of the archaeological remains will have to be considered in a much longer time scale and a much wider geographical scale than is common in the case of dry land sites, and this will pose a serious challenge for archaeologists.

Questions 1-3

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

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

1.What has caused public interest in coastal archaeology in recent years?

A Golds and jewelleries in the ships that have submerged

B The rising awareness of climate change

C Forests under the sea

D Technological advance in the field of sea research

2. What does the passage say about the evidence of boats?

A We have a good knowledge of how boats were made and what boats were for prehistorically

B Most of the boats discovered were found in harbors

C The use of boats had not been recorded for a thousand years

D The way to build boats has remained unchanged throughout human history

3. What can be discovered from the air?

A Salt mines

B Shellfish

C Ironstones

D Fisheries

Questions 4-10

Do the following statements agree with the information given in Reading Passage 1? In boxes 4-10 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

4. England lost much of its land after the ice-age due to the rising sea level.

5. The coastline of England has changed periodically.

6. Coastal archaeological evidence may be well-protected by sea water.

7. The design of boats used by pre-modem people was very simple.

8. Similar boats were also discovered in many other European countries

9. There are few documents relating to mineral exploitation.

10. Large passenger boats are causing increasing damage to the seashore.

Questions 11-13

Choose THREE letters J-G Write your answer in boxes 11-13 on your answer sheet Which THREE of the following statements are mentioned in the passage?

A Our prehistoric ancestors adjusted to the environmental change caused by the rising sea level by moving to higher lands

B It is difficult to understand how many people lived close to the sea.

C Human settlements in coastal environment were different from those inland.

D Our knowledge of boat evidence is limited.

E The prehistoric boats were built mainly for collecting sand from the river.

F Human development threatens the archaeological remains.

G The reason for the decline of salt industry was the shortage of laborers.

SECTION 2

Activities for Children

A Twenty-five years ago, children in London walked to school and played in parks and playing fields after school and at the weekend. Today they are usually driven to school by parents anxious about safety and spend hours glued to television screens or computer games. Meanwhile, community playing fields are being sold off to property developers at an alarming rate. 'This change in lifestyle has, sadly, meant greater restrictions on children,' says Neil Armstrong, Professor of Health and Exercise Sciences at the University of Exeter. 'If children continue to be this inactive, they'll be storing up big problems for the future.'

B In 1985, Professor Armstrong headed a five-year research project into children's fitness. The results, published in 1990, were alarming. The survey, which monitored 700 11-16-year-olds, found that 48 per cent of girls and 41 per cent of boys already exceeded safe cholesterol levels set for children by the American Heart Foundation. Armstrong adds, "heart is a muscle and need exercise, or it loses its strength." It also found that 13 per cent of boys and 10 per cent of girls were overweight. More disturbingly, the survey found that over a four-day period, half the girls and one-third of the boys did less exercise than the equivalent of a brisk 10-minute walk. High levels of cholesterol, excess body fat and inactivity are believed to increase the risk of coronary heart disease.

C Physical education is under pressure in the UK – most schools devote little more than 100 minutes a week to it in curriculum time, which is less than many other European countries. Three European countries are giving children a head start in PE, France, Austria and Switzerland – offer at least two hours in primary and secondary schools. These findings, from the European Union of Physical Education Associations, prompted specialists in children's physiology to call on European governments to give youngsters a daily PE programme. The survey shows that the UK ranks 13th out of the 25 countries, with Ireland bottom, averaging under an hour a week for PE. From age six to 18， British children received, on average, 106 minutes of PE a week. Professor Armstrong, who presented the findings at the meeting, noted that since the introduction of the national curriculum there had been a marked fall in the time devoted to PE in UK schools, with only a minority of pupils getting two hours a week.

D As a former junior football international, Professor Armstrong is a passionate advocate for sport. Although the Government has poured millions into beefing up sport in the community, there is less commitment to it as part of the crammed school curriculum. This means that many children never acquire the necessary skills to thrive in team games. If they are no good at them, they lose interest and establish an inactive pattern of behaviour. When this is coupled with a poor diet, it will lead inevitably to weight gain. Seventy per cent of British children give up all sport when they leave school, compared with only 20 per cent of French teenagers. Professor Armstrong believes that there is far too great an emphasis on team games at school. "We need to look at the time devoted to PE and balance it between individual and pair activities, such as aerobics and badminton, as well as team sports. "He added that children need to have the opportunity to take part in a wide variety of individual, partner and team sports.

E The good news, however, is that a few small companies and children's activity groups have reacted positively and creatively to the problem. Take That, shouts Gloria Thomas, striking a disco pose astride her mini-spacehopper. Take That, echo a flock of toddlers, adopting outrageous postures astride their space hoppers. 'Michael Jackson, she shouts, and they all do a spoof fan-crazed shriek. During the wild and chaotic hopper race across the studio floor, commands like this are issued and responded to with untrammelled glee. The sight of 15 bouncing seven-year-olds who seem about to launch into orbit

at every bounce brings tears to the eyes. Uncoordinated, loud, excited and emotional, children provide raw comedy.

F Any cardiovascular exercise is a good option, and it doesn't necessarily have to be high intensity. It can be anything that gets your heart rate up: such as walking the dog, swimming, miming, skipping, hiking. "Even walking through the grocery store can be exercise," Samis-Smith said. What they don't know is that they're at a Fit Kids class, and that the fun is a disguise for the serious exercise plan they're covertly being taken through. Fit Kids trains parents to run fitness classes for children. 'Ninety per cent of children don't like team sports,' says company director, Gillian Gale.

G A Prevention survey found that children whose parents keep in shape are much more likely to have healthy body weights themselves. "There's nothing worse than telling a child what he needs to do and not doing it yourself," says Elizabeth Ward, R.D., a Boston nutritional consultant and author of Healthy Foods, Healthy Kids . "Set a good example and get your nutritional house in order first." In the 1930s and '40s, kids expended 800 calories a day just walking, carrying water, and doing other chores, notes Fima Lifshitz, M.D., a pediatric endocrinologist in Santa Barbara. "Now, kids in obese families are expending only 200 calories a day in physical activity," says Lifshitz, "incorporate more movement in your family's lifepark farther away from the stores at the mall, take stairs instead of the elevator, and walk to nearby friends' houses instead of driving."

Questions 14 -17

The reading Passage has seven paragraphs A-G.

Which paragraph contains the following information?

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

14. Health and living condition of children

15. Health organization monitored physical activity

16. Comparison of exercise time between UK and other countries

17. Wrong approach for school activity

Questions 18-21

Do the following statements agree with the information given in Reading Passage 2? In boxes 18-21 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

18. According to American Heart Foundation, cholesterol levels of boys are higher than girls'.

19. British children generally do less exercise than some other European countries.

20. Skipping becomes more and more popular in schools of UK.

21. According to Healthy Kids, the first task is for parents to encourage their children to keep the same healthy body weight.

Questions 22-26

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

Write your answers in boxes 22-26 on your answer sheet.

22. According to paragraph A, what does Professor Neil Armstrong concern about?

A Spending more time on TV affect academic level

B Parents have less time stay with their children

C Future health of British children

D Increasing speed of property's development

23. What does Armstrong indicate in Paragraph B?

A We need to take a 10 minute walk everyday

B We should do more activity to exercise heart

C Girls' situation is better than boys

D Exercise can cure many disease

24.What is aim of First Kids' trainning?

A Make profit by running several sessions

B Only concentrate on one activity for each child

C To guide parents how to organize activities for children

D Spread the idea that team sport is better

25. What did Lifshitz suggest in the end of this passage?

ACreate opportunities to exercise your body

B Taking elevator saves your time

C Kids should spend more than 200 calories each day

D We should never drive but walk

26. What is main idea of this passage?

A health of the children who are overweight is at risk in the future

B Children in UK need proper exercises

C Government mistaken approach for children

D Parents play the most important role in children's activity

SECTION 3

You should ideally spend about 20 minutes solving Questions 27-40, which are based on Reading Passage 3.

Mechanisms of Linguistic Change

A The changes that have caused the most disagreement are those in pronunciation. We have various sources of evidence for the pronunciations of earlier times, such as the spellings, the treatment of words borrowed from other languages or borrowed by them, the descriptions of contemporary grammarians and spelling-reformers, and the modern pronunciations in all the languages and dialects concerned From the middle of the sixteenth century, there are in England writers who attempt to describe the position of the speech-organs for the production of English phonemes, and who invent what are in effect systems of phonetic symbols. These various kinds of evidence, combined with a knowledge of the mechanisms of speech-production, can often give us a very good idea of the pronunciation of an earlier age, though absolute certainty is never possible.

B When we study the pronunciation of a language over any period of a few generations or more, we find there are always large-scale regularities in the changes: for example, over a certain period of time, just about all the long [a:] vowels in a language may change into long [e:] vowels, or all the [b] consonants in a certain position (for example at the end of a word) may change into [p] consonants. Such regular changes are often called sound laws. There are no universal sound laws (even though sound laws often reflect universal tendencies), but simply particular sound laws for one given language (or dialect) at one given period

C It is also possible that fashion plays a part in the process of change. It certainly plays a part in the spread of change: one person imitates another, and people with the most prestige are most likely to be imitated, so that a change that takes place in one social group may be imitated (more or less accurately) by speakers in another group. When a social group goes up or down in the world, its pronunciation of Russian, which had formerly been considered desirable, became on the contrary an undesirable kind of accent to have, so that people tried to disguise it. Some of the changes in accepted English pronunciation in the seventeenth and eighteenth centuries have been shown to consist in the replacement of one style of pronunciation by another style already existing, and it is likely that such substitutions were a result of the great social changes of the period: the increased power and wealth of the middle classes, and their steady infiltration upwards into the ranks of the landed gentry, probably carried elements of middle-class pronunciation into upper-class speech.

D A less specific variant of the argument is that the imitation of children is imperfect: they copy their parents' speech, but never reproduce it exactly. This is true, but it is also true that such deviations from adult speech are usually corrected in later childhood. Perhaps it is more significant that even adults show a certain amount of random variation in their pronunciation of a given phoneme, even if the phonetic context is kept unchanged. This, however, cannot explain changes in pronunciation unless it can be shown that there is some systematic trend in the failures of imitation: if they are merely random deviations they will cancel one another out and there will be no net change in the language.

E One such force which is often invoked is the principle of ease, or minimization of effort. The change from fussy to fuzzy would be an example of assimilation, which is a very common kind of change. Assimilation is the changing of a sound under the influence of a neighbouring one. For example, the word scant was once skamt, but the /m/ has been changed to /n/ under the influence of the following /t/. Greater efficiency has hereby been achieved, because /n/ and /t/ are articulated in the same place (with the tip of the tongue against the teeth-ridge), whereas /m/ is articulated elsewhere (with the two lips). So the place of articulation of the nasal consonant has been changed to conform with that of the following plosive. A more recent example of the same kind of thing is the common pronunciation of football as football.

F Assimilation is not the only way in which we change our pronunciation in order to increase efficiency. It is very common for consonants to be lost at the end of a word: in Middle English, word-final [-n] was often lost in unstressed syllables, so that baken 'to bake' changed from ['ba:kan] to ['ba:k3],and later to [ba:k]. Consonant-clusters are often simplified. **At one time there was a [t] in words like castle and Christmas**, and an initial [k] in words like knight and know**.** Sometimes a whole syllable is dropped out when two successive syllables begin with the same consonant (haplology): a recent example is temporary, which in Britain is often pronounced as if it were tempory.

Questions 27-30

Complete the summary below.

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

Write your answers in boxes 27-30 on your answer sheet.

The pronunciation of living language undergo changes throughout thousands of years. Large scale regular Changes are usually called

27_____ . There are three reasons for these changes. Firstly, the influence of one language on another; when one person imitates another pronunciation(the most prestige's), the imitation always partly involving factor of 28_____ . Secondly, the imitation of children from adults[1] language sometimes are 29_____ , and may also contribute to this change if there are insignificant deviations tough later they may be corrected Finally, for those random variations in pronunciation, the deeper evidence lies in the 30_____or minimization of effort.

Questions 31-37

Do the following statements agree with the information given in Reading Passage 3? In boxes 31-37 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

31. it is impossible for modern people to find pronunciation of words in an earlier age

32. The great change of language in Russian history is related to the rising status and fortune of middle classes.

33. All the children learn speeches from adults white they assume that certain language is difficult to imitate exactly.

34. Pronunciation with causal inaccuracy will not exert big influence on language changes.

35. The link of can be influenced being pronounced as 'nf'

36. The [g] in gnat not being pronounced will not be spelt out in the future.

37. The sound of 'temporary' cannot wholly present its spelling.

Questions 38-40

Look at the following sentences and the list of statements below. Match each statement with the correct sentence, A-D.

Write the correct letter, A-D, in boxes 38-40 on your answer sheet

A Since the speakers can pronounce it with less effort

B Assimilation of a sound under the influence of a neighbouring one

C It is a trend for changes in pronunciation in a large scale in a given period

D Because the speaker can pronounce [n] and [t] both in the same time

38. As a consequence, 'b' will be pronounced as

39. The pronunciation of [mt] changed to [nt]

40. The omit of 'f in the sound of Christmas

ANSWER KEYS

1 B 2 C 3 D

4 TRUE 5 FALSE 6 TRUE

7 FALSE 8 NOT GIVEN 9 TRUE 10 TRUE

11 B 12 D 13 F

14 A 15 B 16 C 17 D

18 NOT GIVEN 19 TRUE

20 NOT GIVEN 21 FALSE

22 C 23 B 24 C 25 A 26 B

27 Sound laws 28 Fashion 29 Imperfect 30 Principle of

31 FALSE 32 FALSE

33 NOT GIVEN 34 TRUE

35 TRUE 36 NOT GIVEN 37 TRUE

38 C 39 B 40 A

TEST 5. SECTION 1

SOSUS : Listening to the Ocean

A The oceans of Earth cover more than 70 percent of the planet's surface, yet, until quite recently, we knew less about their depths than we did about the surface of the Moon. Distant as it is, the Moon has been far more accessible to study because astronomers long have been able to look at its surface, first with the naked eye and then with the telescope-both instruments that focus light. And, with telescopes tuned to different wavelengths of light, modem astronomers can not only analyze Earth's atmosphere, but also determine the temperature and composition of the Sun or other stars many hundreds of light-years away. Until the twentieth century, however, no analogous instruments were available for the study of Earth's oceans: Light, which can travel trillions of miles through the vast vacuum of space, cannot penetrate very far in seawater.

B Curious investigators long have been fascinated by sound and the way it travels in water. As early as 1490, Leonardo da Vinci observed: "If you cause your ship to stop and place the head of a long tube in the water and place the outer extremity to your ear, you will hear ships at a great distance from you." In 1687, the first mathematical theory of sound propagation was published by Sir Isaac Newton in his Philosophiae Naturalis Principia Mathematica, Investigators were measuring the speed of sound in air beginning in the mid seventeenth century, but it was not until 1826 that Daniel Colladon, a Swiss physicist, and Charles Sturm, a French mathematician, accurately measured its speed in water. Using a long tube to listen underwater (as da Vinci had suggested), they recorded how fast the sound of a submerged bell traveled across Lake Geneva. Their result-1,435 meters (1,569 yards) per second in water of 1.8 degrees Celsius (35 degrees Fahrenheit)- was only 3 meters per second off from the speed accepted today. What these investigators demonstrated was that water – whether fresh or salt-is an excellent medium for sound, transmitting it almost five times faster than its speed in air

C In 1877 and 1878, the British scientist John William Strutt, third Baron Rayleigh, published his two-volume seminal work, The Theory of Sound, often regarded as marking the beginning of the modem study of acoustics. The recipient of the Nobel Prize for Physics in 1904 for his successful isolation of the element argon, Lord Rayleigh made key discoveries in the fields of acoustics and optics that are critical to the theory of wave propagation in fluids. Among other things, Lord Rayleigh was the first to describe a sound wave as a mathematical equation (the basis of all theoretical work on acoustics) and the first to describe how small particles in the atmosphere scatter certain wavelengths of sunlight, a principle that also applies to the behavior of sound waves in water.

D A number of factors influence how far sound travels underwater and how long it lasts. For one, particles in seawater can reflect, scatter, and absorb certain frequencies of sound – just as certain

wavelengths of light may be reflected, scattered, and absorbed by specific types of particles in the atmosphere. Seawater absorbs 30 times the amount of sound absorbed by distilled water, with specific chemicals (such as magnesium sulfate and boric acid) damping out certain frequencies of sound. Researchers also learned that low frequency sounds, whose long wavelengths generally pass over tiny particles, tend to travel farther without loss through absorption or scattering. Further work on the effects of salinity, temperature, and pressure on the speed of sound has yielded fascinating insights into the structure of the ocean. Speaking generally, the ocean is divided into horizontal layers in which sound speed is influenced more greatly by temperature in the upper regions and by pressure in the lower depths. At the surface is a sun-warmed upper layer, the actual temperature and thickness of which varies with the season. At mid-latitudes, this layer tends to be isothermal, that is, the temperature tends to be uniform throughout the layer because the water is well mixed by the action of waves, winds, and convection currents; a sound signal moving down through this layer tends to travel at an almost constant speed. Next comes a transitional layer called the thermocline, in which temperature drops steadily with depth; as temperature falls, so does the speed of sound.

E The U.S. Navy was quick to appreciate the usefulness of low-frequency sound and the deep sound channel in extending the range at which it could detect submarines. In great secrecy during the 1950s, the U.S. Navy launched a project that went by the code name Jezebel; it would later come to be known as the Sound Surveillance System (SOSUS). The system involved arrays of underwater microphones, called hydrophones, that were placed on the ocean bottom and connected by cables to onshore processing centers. With SOSUS deployed in both deep and shallow waters along both coasts of North America and the British West Indies, the U.S. Navy not only could detect submarines in much of the northern hemisphere, it also could distinguish how many propellers a submarine had, whether it was conventional or nuclear, and sometimes even the class of sub.

F The realization that SOSUS could be used to listen to whales also was made by Christopher Clark, a biological acoustician at Cornell University, when he first visited a SOSUS station in 1992. When Clark looked at the graphic representations of sound, scrolling 24 hours day, every day, he saw the voice patterns of blue, finback, minke, and humpback whales. He also could hear the sounds. Using a SOSUS receiver in the West Indies, he could hear whales that were 1,770 kilometers (1,100 miles) away. Whales are the biggest of Earth's creatures. The blue whale, for example, can be 100 feet long and weigh as many tons. Yet these animals also are remarkably elusive. Scientists wish to observe blue time and position them on a map. Moreover, they can track not just one whale at a time, but many creatures simultaneously throughout the North Atlantic and the eastern North Pacific. They also can learn to distinguish whale calls. For example, Fox and colleagues have detected changes in the calls of finback whales during different seasons and have found that blue whales in different regions of the Pacific ocean have different calls. Whales firsthand must wait in their ships for the whales to surface. A few whales have been tracked briefly in the wild this way but not for very great distances, and much about them remains unknown. Using the SOSUS stations, scientists can track the whales in real time

and position them on a map. Moreover, they can track not just one whale at a time, but many creatures simultaneously throughout the North Atlantic and the eastern North Pacific. They also can learn to distinguish whale calls. For example, Fox and colleagues have detected changes in the calls of finback whales during different seasons and have found that blue whales in different regions of the Pacific Ocean have different calls.

G SOSUS, with its vast reach, also has proved instrumental in obtaining information crucial to our understanding of Earth's weather and climate. Specifically, the system has enabled researchers to begin making ocean temperature measurements on a global scale – measurements that are keys to puzzling out the workings of heat transfer between the ocean and the atmosphere. The ocean plays an enormous role in determining air temperature the heat capacity in only the upper few meters of ocean is thought to be equal to all of the heat in the entire atmosphere. For sound waves traveling horizontally in the ocean, speed is largely a function of temperature. Thus, the travel time of a wave of sound between two points is a sensitive indicator of the average temperature along its path. Transmitting sound in numerous directions through the deep sound channel can give scientists measurements spanning vast areas of the globe. Thousands of sound paths in the ocean could be pieced together into a map of global ocean temperatures and, by repeating measurements along the same paths over times, scientists could track changes in temperature over months or years.

H Researchers also are using other acoustic techniques to monitor climate. Oceanographer Jeff Nystuen at the University of Washington, for example, has explored the use of sound to measure rainfall over the ocean. Monitoring changing global rainfall patterns undoubtedly will contribute to understanding major climate change as well as the weather phenomenon known as El Nino. Since 1985, Nystuen has used hydrophones to listen to rain over the ocean, acoustically measuring not only the rainfall rate but also the rainfall type, from drizzle to thunderstorms. By using the sound of rain underwater as a "natural" rain gauge, the measurement of rainfall over the oceans will become available to climatologists.

Questions 1-4

Do the following statements agree with the information given in the reading passage above? In boxes 1-4 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

1. In the past, difficulties of research carried out on Moon were much easier than that of

2. The same light technology used on investigation of moon can be employed in the field of ocean.

3. Research on the depth of ocean by method of sound wave is more time-consuming.

4. Hydrophones technology is able to detect the category of precipitation.

Questions 5-8

The reading Passage has seven paragraphs A-H.

Which paragraph contains the following information?

Write the correct letter A-H, in boxes 5-8 on your answer sheet.

NB You may use any letter more than once

5. Elements affect sound transmission in the ocean.

6. Relationship between global climate and ocean temperature

7. Examples of how sound technology help people research ocean and creatures in it

8. Sound transmission under water is similar to that of light in any condition.

Questions 9-13

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

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

9. Who of the followings is dedicated to the research of rate of sound?

A Leonardo da Vinci

B Isaac Newton

C John William Strutt

D Charles Sturm

10. Who explained that the theory of light or **sound wavelength** is significant in water?

A Lord Rayleigh

B John William Strutt

C Charles Sturm

D Christopher Clark

11. According to Fox and colleagues, in what pattern does the change of ***finback wha****le* calls happen

A Change in various seasons

B Change in various days

C Change in different months

D Change in different years

12. In which way does the SOSUS technology inspect whales?

A Track all kinds of whales in the ocean

B Track bunches of whales at the same time

C Track only finback whale in the ocean

D Track whales by using multiple appliances or devices

13. what could scientists inspect via monitoring along a repeated route ?

A Temperature of the surface passed

B Temperature of the deepest ocean floor

C Variation of temperature

D Fixed data of temperature

SECTION 2

You should spend about 20 minutes on Questions 14-27, which are based on Reading Passage 2 on the following pages.

Monkeys and Forests

AS AN EAST WIND blasts through a gap in the Cordillera de Tilaran, , a rugged mountain range that splits northern Costa Rica in half, a female mantled howler monkey moves through the swaying trees of the forest canopy.

A Ken Glander, a primatologist from Duke L 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. 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.

B 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.

C 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. 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.

D 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. 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"

E 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.

F 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.

G Growing human population pressures in Central and South America have led to persistent destruction of forests. During the 1990s, about 1.1 million acres of Central American forest were felled yearly. Alejandro Estrada, an ecologist at Estacion de Biologia 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 groupof mantled howler monkeys that thrive in a habitat completely altered by humans: a cacao plantation in Tabasco, Mexico. Like many varieties of coffee, cacao plants need shade to grow, so 40 years ago the landowners planted fig, monkey pod and other tall trees to form a protective canopy over their crop. The howlers moved in about 25 years ago after nearby forests were cut. This strange habitat, a hodgepodge of cultivated native and exotic plants, seems to support about as many monkeys as would a same-sized patch of wild forest. The howlers eat the leaves and fruit of the shade trees, leaving the valuable cacao pods alone, so the farmers tolerate them

H 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 14-19

The reading Passage has seven paragraphs A-I.

Which paragraph contains the following information? Write the correct letter U, in boxes 14-19 on your answer sheet.

14. a reference of reduction in Forest inhabitant

15. Only one species of monkey survived while other two species were vanished

16. a reason for howler Monkey of choosing new leaves

17. mention to howler Monkey's nutrient and eating habits

18. a reference of asking farmers' changing attitude toward wildlife

19. the advantage for howler Monkey's flexibility living in a segmented habitat

Questions 20-22

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

Match each description with the correct place, A-E.

Write the correct letter, A-E, in boxes 20-22 on your answer sheet.

List of places
A Hacienda La Pacifica

B Santa Rosa National Park

C a cacao plantation in Tabasco, Mexico

D Estacion de Biologia Los Tuxtlas in Veracruz, Mexico

E Amazon Basin

20. howler Monkey's benefit to the local region's agriculture

21. Original home for all three native monkeys

22. A place where Capuchins monkey comes for a better habitat

Questions 23-27

Complete the sentences below.

Choose NO MORE THAN TWO WORDS from the passage for each answer. Write your answers in boxes 23-27 on your answer sheet.

The reasons for Howlers monkey survive better

in focal region than other two species

Howlers in La Pacifica since they can feed themselves with leaf when 23…….is not easily found

Howlers has better ability to alleviate the 24……. which old and young trees used to protect themselves)

When compared to that of spider monkeys and capuchin monkeys, the 25 …….. the rate of Howlers is relatively faster (round for just every 2 years).

The monkeys can survive away from open streams and water holes as the leaves howlers eat hold high content of 26……. which ensure them to resist to continuous 27……. in Guanacaste

SECTION 3

A While it may not be possible to completely age-proof our brains, a bravenew world of anti-aging research shows that our gray matter may be far more flexible than we thought. So no one, no matter how old, has to lose their mind. The brain has often been called the three-pound universe. It's our most powerful and mysterious organ, the seat of the self, laced with as many billions of neurons as the galaxy has stars. No wonder the mere notion of an aging, failing brain——and the prospect of memory loss, confusion, and the unraveling of our personality——is so terrifying. As Mark Williams, M.D., author of The American Geriatrics Society's Complete Guide to Aging and Health, says, "The fear of dementia is stronger than the fear of death itself." Yet the degeneration of the brain is far from inevitable. " Its design features are such that it should continue to function for a lifetime," says Zaven Khachaturian, Ph.D., director of the Alzheimer1s Association1s Ronald and Nancy Reagan Research Institute. "There's no reason to expect it to deteriorate with age, even though many of us are living longer lives." In fact, scientists ' view of the brain1s potential is rapidly changing, according to Stanford University neuroscientist Robert Sapolsky, Ph.D.

"Thirty-five years ago we thought Alzheimer1 s disease was a dramatic version of normal aging. Now we realize it1s a disease with a distinct pathology. In fact, some people simply don't experience any mental decline, so we've begun to study them." Antonio Damasio, M.D., Ph.D., head of the Department of Neurology at the University of Iowa and author of Descartes' Error, concurs. "Older people can continue to have extremely rich and healthy mental lives.'

B The seniors were tested in 1988 and again in 1991. Four factors were found to be related to their mental fitness: levels of education and physical activity, lung function, and feelings of self-efficacy "Each of these elements alters the way our brain functions, " says Marilyn Albert, Ph.D. , of Harvard Medical School, and colleagues from Yale, Duke, and Brandeis Universities and the Mt. Sinai School of Medicine, who hypothesizes that regular exercise may actually stimulate blood flow to the brain and nerve growth, both of which create more densely branched neurons, rendering the neurons stronger and better able to resist disease. Moderate aerobic exercise, including long brisk walks and frequently climbing stairs, will accomplish this.

C Education also seems to enhance brain function. People who have challenged themselves with at least a college education may actually stimulate the neurons in their brains. Moreover, native intelligence may protect our brains. It's possible that smart people begin life with a greater number of neurons, and therefore have a greater reserve to fall back on if some begin to fail. "If you have a lot of neurons and keep them busy, you may be able to tolerate more damage to your brain before it shows," says Peter Davies, M.D., of the Albert Einstein College of Medicine in the Bronx, New York. Early linguistic ability also seems to help our brains later in life. A recent study in the New England Journal of Medicine looked at 93 elderly nuns and examined the autobiographies they had written 60 years

earlier, just as they were joining a convent. The nuns whose essays were complex and dense with ideas remained sharp into their eighties and nineties.

D Finally, personality seems to play an important role in protecting our mental prowess. A sense of self-efficacy may protect our brain, buffeting it from the harmful effects of stress. According to Albert, there' s evidence that elevated levels of stress hormones may harm brain cells and cause the hippocampus——a small seahorse-shaped organ that1s a crucial moderator of memory——to atrophy. A sense that we can effectively chart our own course in the world may retard the release of stress hormones and protect us as we age. "It' s not a matter of whether you experience stress or not, " Albert concludes , "it's your attitude toward it. " Reducing stress by meditating on a regular basis may buffer the brain as well. It also increases the activity of the brain' s pineal gland, the source of the antioxidant hormone melatonin, which regulates sleep and may retard the aging process. Studies at the University of Massachusetts Medical Center and the University of Western Ontario found that people who meditated regularly had higher levels of melatonin than those who took 5-milligram supplements Another study, conducted jointly by Maharishi international University, Harvard University, and the University of Maryland, found that seniors who meditated for three months experienced dramatic improvements in their psychological well-being, compared to their non-meditative peers.

E Animal studies confirm that both mental and physical activity boost brain fitness. At the Beckman Institute for Advanced Science and Technology in Urbana, Illinois， psychologist William Greenough, Ph. D., let some rats play with a profusion of toys. These rodents developed about 25 percent more connections between their neurons than did rats that didn't get any mentally stimulating recreation. In addition, rats that exercised on a treadmill developed more capillaries in specific parts of their brains than did their sedentary counterparts. This increased the blood flow to their brains. "Clearly the message is to do as many different flyings as possible," Greenough says.

F It's not just scientists who are catching anti-aging fever. Walk into any health food store, and you111 find nutritional formulas ——with names like Brainstorm and Smart ALEC——that claim to sharpen mental ability. The book Smart Drugs & Nutrients, by Ward Dean, M.D., and John Morgenthaler, was self-published in 1990 and has sold over 120,000 copies worldwide. It has also spawned an underground network of people tweaking their own brain chemistry with nutrients and drugs——the latter sometimes obtained from Europe and Mexico. Sales of ginkgo ——an extract from the leaves of the 200-mill ion-year-old ginkgo tree, which has been shown in published studies to increase oxygen in the brain and ameliorate symptoms of Alzheimer's disease——are up by 22 percent in the last six months alone, according to Paddy Spence, president of SPINS, a San Francisco-based market research firm. Indeed, products that increase and preserve mental performance are a small but emerging segment of the supplements industry, says Linda Gilbert, president of Health Focus, a company that researches consumer health trends. While neuroscientists like Khachaturian liken the

use of these products to the superstition of tossing salt over your shoulder, the public is nevertheless gobbling up nutrients that promise cognitive enhancement.

Questions 28-31

Choose the Four correct letters among A-G

Write your answers in boxes 28-31 on your answer sheet.

Which of the FOUR situations or conditions assisting the Brains' function?

A Preventive treatment against Alzheimer's disease

B Doing active aerobic exercise and frequently climbing stairs

C High levels of education

D Early verbal or language competence training

E Having more supplements such as ginkgo tree

F Participate in more physical activity involving in stimulating tasks

G Personality and feelings of self-fulfillment

Questions 32-39

Use the information in the passage to match the people (listed A-G) with opinions or deeds below. Write the appropriate letters A-G in boxes 32-39 on your answer sheet.

NB you may use any latter more than once

A Zaven Khachaturian

B William Greenough

C Marilyn Albert

D Robert Sapolsky

E Linda Gilbert

F Peter Davies

G Paddy Spence

32. Alzheimer's was probably a kind of disease rather than a normal aging process.

33. Keeping neurons busy, people may be able to endure more harm to your brain

34. Regular exercises boost blood flow to the brain and increase anti-disease disability.

35. Significant increase of Sales of ginkgo has been shown.

36. More links between their neurons are found among stimulated animals.

37. Effectiveness of the use of brains supplements products can be of little scientific proof.

38. Heightened levels of stress may damage brain cells and cause part of brain to deteriorate.

39. Products that upgrade and preserve mental competence are still a newly developing industry.

Questions 40

Choose the correct letters among A-D

Write your answers in box 40 on your answer sheet.

According the passage, what is the most appropriate title for this passage?

A Making our minds last a lifetime

B amazing pills of the ginkgo

C how to stay healthy in your old hood

D more able a brain and neurons

ANSWER KEYS

1	TRUE	**8**	FALSE	**3**	NOT GIVEN
4	TRUE	**5**	D	**6**	G
7	F	**8**	D	**9**	D
10	A	**11**	A	**12**	B
13	C				

14	G	**15**	A	**16**	C
17	B	**18**	I	**19**	D
20	C	**21**	A	**22**	B
23	Fruits	**24**	Plant toxins/ toxin	**25**	Reproduction/ reproduce
26	Water	**27**	drought		

28	C	**29**	D	**30**	F
31	G	**32**	D	**33**	F

34	C	**35**	G	**36**	B
37	A	**38**	C	**39**	E
40	A				

TEST 6. SECTION 1

You should spend about 20 minutes on Questions 14-25, which are based on Reading Passage 2 below

Ancient Chinese Chariots

A The Shang Dynasty or Yin Dynasty, according to traditional historiography, ruled in the Yellow River valley in the second millennium Archaeological work at the Ruins of Yin (near modern-day Anyang), which has been identified as the last Shang capital, uncovered eleven major Yin royal tombs and the foundations of palaces and ritual sites, containing weapons of war and remains from both animal and human sacrifices.

B The Tomb of Fu Hao is an archaeological site at Yinxu, the ruins of the ancient Shang Dynasty capital Yin, within the modem city of Anyang in Henan Province, China. Discovered in 1976， it was identified as the final resting place of the queen and military general Fu Hao. The artefacts unearthed within the grave included jade objects, bone objects, bronze objects etc. These grave goods are confirmed by the oracle texts, which constitute almost all of the first handwritten record we possess of the Shang Dynasty. Below the corpse was a small pit holding the remains of six sacrificial dogs and along the edge lay the skeletons of human slaves, evidence of human sacrifice.

C The Terracotta Army was discovered on 29 March 1974 to the east of Xi'an in Shaanxi. The terracotta soldiers were accidentally discovered when a group of local farmers was digging a well during a drought around 1.6 km (I mile) east of the Qin Emperors tomb around at Mount Li (Lishan), a region riddled with underground springs and watercourses. Experts currently place the entire number of soldiers at 8,000 — with 130 chariots (130 cm long), 530 horses and 150 cavalry horses helping to ward off any dangers in the afterlife. In contrast, the burial of Tutank hamun yielded six complete but dismantled chariots of unparalleled richness and sophistication. Each was designed for two people (90 cm long) and had its axle sawn through to enable it to be brought along the narrow corridor into the tomb.

D Excavation of ancient Chinese chariots has confirmed the descriptions of them in the earliest texts. Wheels were constructed from a variety of woods: elm provided the hub, rose-wood the spokes and oak the felloes. The hub was drilled through to form an empty space into which the tampering axle was fitted， the whole being covered with leather to retain lubricating oil. Though the number of spokes varied, a wheel by the fourth century BC usually had eighteen to thirty-two of them. Records show how elaborate was the testing of each completed wheel: flotation and weighing were regarded as the best measures of balance, but even the empty spaces in the assembly were checked with millet grains. One

outstanding constructional asset of the ancient Chinese wheel was dishing. Dishing refers to the dishlike shape of an advanced wooden wheel, which looks rather like a flat cone. On occasion, they chose to strengthen a dished wheel with a pair of struts running from rim to rim on each of the hubs. As these extra supports were inserted separately into the felloes, they would have added even greater strength to the wheel. Leather wrapped up the edge of the wheel aimed to retain bronze.

E Within a millennium, however, Chinese chariot-makers had developed a vehicle with shafts, the precursor of the true carriage or cart. This design did not make its appearance in Europe until the end of the Roman Empire. Because the shafts curved upwards, and the harness pressed against a horse's shoulders, not his neck, the shaft chariot was incredibly efficient. The halberd was also part of chariot standard weaponry. This halberd usually measured well over 3 metres in length, which meant that a chariot warrior wielding it sideways could strike down the charioteer in a passing chariot. The speed of chariot which was tested on the sand was quite fast. At speed, these passes were very dangerous for the crews of both chariots.

F The advantages offered by the new chariots were not entirely missed. They could see how there were literally the warring states, whose conflicts lasted down the Qin unification of China. Qin Shi Huang was buried in the most opulent tomb complex ever constructed in China, a sprawling, city-size collection of underground caverns containing everything the emperor would need for the afterlife. Even a collection of terracotta armies called Terra- Cotta Warriors was buried in it. The ancient Chinese, along with many cultures including ancient Egyptians, believed that items and even people buried with a person could be taken with him to the afterlife

Questions 1-4

Do the following statements agree with the information given in Reading Passage 1? In boxes 1-4 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

1. when discovered, the written records of the grave goods proved to be accurate.

2. Human skeletons in Anyang tomb were identified ad soldiers who were killed in the war.

3. The Terracotta Army was discovered by people who lived nearby by chance.

4. The size of the King Tutankhamen's tomb is bigger than that of in Qin Emperors' tomb.

Questions 5-10

Complete the notes below.

Choose ONE WORD from the passage for each answer. Write your answers in boxes 5-10 on your answer sheet

5. The hub is made wood from the tree of…….

6. The room through the hub was to put tempering axle in which is wrapped up by leather aiming to retain…….

7. The number of spokes varied from…….to …….

8. The shape of the wheel resembles a…….

9. Two was used to strengthen the wheel…….

10. Leather wrapped up the edge of the wheel aimed to remain……..

Questions 11-13

Answer the questions below.

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

11. What body part of horse was released the pressure from to the shoulder

12. what kind of road surface did the researchers measure the speed of the chariot?

13. What part of his afterlife palace was the Emperor Qin Shi Huang buried?

SECTION 2

Saving the British Bitterns

A Breeding bitterns became extinct in the UK by 1886 but, following re-colonisation early last century, numbers rose to a peak of about 70 booming (singing) males in the 1950s, falling to fewer than 20 by the 1990s. In the late 1980s, it was clear that the bittern was in trouble, but there was little information on which to base recovery actions.

B Bitterns have cryptic plumage and shy nature, usually remaining hidden within the cover of reedbed vegetation. Our first challenge was to develop standard methods to monitor their numbers. The boom of the male bittern is its most distinctive feature during the breeding season, and we developed a method to count them using the sound patterns unique to each individual. This not only allows us to be much more certain of the number of booming males in the UK but also enables us to estimate local survival of males from one year to the next

C Our first direct understanding of the habitat needs of breeding bitterns came from comparisons of reedbed sites that had lost their booming birds with those that retained them. This research showed that bitterns had been retained in reedbeds where the natural process of succession, or drying out, had been slowed through management. Based on this work, broad recommendations on how to manage and **rehabilitate** reedbeds for bitterns were made, and funding was provided through the EU LIFE Fund to manage 13 sites within the core breeding range. This project, though led by the RSPB, involved many other organisations.

D To refine these recommendations and provide fine-scale, quantitative habitat prescriptions on the bitterns[7] preferred feeding habitat, we radio-tracked male bitterns on the RSPB's Minsmere and Leighton Moss reserves. This showed clear preferences for feeding in the wetter reedbed margins, particularly within the reedbed next to larger open pools. The average home range sizes of the male bitterns we followed (about 20 hectares) provided a good indication of the area of reedbed needed when managing or creating habitat for this species. Female bitterns undertake all the incubation and care of the young, so it was important to understand their needs as well. Over the course of our research, we located 87 bittern nests and found that female bitterns preferred to nest in areas of continuous vegetation, well into the reedbed, but where water was still present during the driest part of the breeding season.

E The success of the habitat prescriptions developed from this research has been spectacular. For instance, at Minsmere, booming bittern numbers gradually increased from one to 10 following reedbed lowering, a management technique designed to halt the drying out process. After a low point of 11 booming males in 1997, bittern numbers in Britain responded to all the habitat management work and started to increase for the first time since the 1950s.

F The final phase of the research involved understanding the diet, survival and dispersal of bittern chicks. To do this we fitted small radio tags to young bittern chicks in the nest, to determine their fate

through to fledgingand beyond. Many chicks did not survive to fledging and starvation was found to be the most likely reason for their demise. The fish prey fed to chicks was dominated by those species penetrating into the reed edge. So, an important element of recent studies (including a PhD with the University of Hull) has been the development of recommendations on habitat and water conditions to promote healthy native fish populations

G Once independent, radio-tagged young bitterns were found to seek out new sites during their first winter; a proportion of these would remain on new sites to breed if the conditions were suitable. A second EU LIFE funded project aims to provide these suitable sites in new areas. A network of 19 sites developed through this partnership project will secure a more sustainable UK bittern population with successful breeding outside of the core area, less vulnerable to chance events and sea level rise.

H By 2004, the number of booming male bitterns in the UK had increased to 55, with almost all of the increase being on those sites undertaking management based on advice derived from our research. Although science has been at the core of the bittern story, success has only been achieved through the trust, hard work and dedication of all the managers, owners and wardens of sites that have implemented, in some cases very drastic, management to secure the future of this wetland species in the UK. The constructed bunds and five major sluices now control the water level over 82 ha, with a further 50 ha coming under control in the winter of 2005/06. Reed establishment has principally used natural regeneration or planted seedlings to provide small core areas that will in time expand to create a bigger reed area. To date, nearly 275,000 seedlings have been planted and reed cover is extensive. Over 3 km of new ditches have been formed, 3.7 km of the existing ditch have been re-profiled and 2.2 km of old meander (former estuarine features) has been cleaned out.

I Bitterns now regularly winter on the site some indication that they are staying longer into the spring. No breeding has yet occurred but a booming male was present in the spring of 2004. A range of wildfowl breed, as well as a good number of reedbed passerines including reed bunting, reed, sedge and grasshopper warblers. Numbers of wintering shoveler have increased so that the site now holds a UK important wintering population. Malltraeth Reserve now forms part of the UK network of key sites for water vole (a UK priority species) and 12 monitoring transects has been established. Otter and brown-hare occur on the site as does the rare plant. Pillwort.

Questions 14-20

The reading passage has seven paragraphs, A-H

Choose the correct heading for paragraphs A-Hfrom the list below. Write the correct number, i-viii, in boxes 14-20 on your answer sheet.

List of Headings

i.	research findings into habitats and decisions made
ii.	fluctuation in bittern number
iii.	protect the young bittern
iv.	international cooperation works
v.	Began in the calculation of the number
vi.	importance of food
vii.	Research has been successful.
viii.	research into the reedbed
ix.	reserve established holding bittern in winter

14. Paragraph A

15. Paragraph B

16. Paragraph C

17. Paragraph D

18. Paragraph F

19. Paragraph G

20. Paragraph H

Example Paragraph E vii

Questions 21-26

Answer the questions below.

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

21. When did the bird of bitten reach its peak of number?

22. What does the author describe the bittern's character?

23. What is the main cause for the chick bittern's death?

24. What is the main food for chick bittern?

25. What system does it secure the stability for bittern's population?

26. Besides bittern and rare vegetation, what mammal does the plan benefit?

Questions 27

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

Write your answers in boxes 27 on your answer sheet.

27. What is the main purpose of this passage?

A. Main characteristic of a bird called bittern.
B. Cooperation can protect an endangered species.
C. The difficulty of access information of bittern's habitat and diet.
D. To save wetland and reedbed in UK.

SECTION 3

E-training

A E-learning is a unifying term to describe the fields of online learning, web-based training, and technology-delivered instruction, which can be a great benefit to corporate e-learning. IBM, for instance, claims that the institution of its e-training program, Basic Blue, whose purpose is to train new managers, saved the company in the range of $200 million in 1999. Cutting the travel expenses required to bring employees and instructors to central classroom accounts for the lion's share of the savings. With an online course, employees can learn from any Internet-connected PC, anywhere in the world. Ernst and Young reduced training costs by 35 per cent while improving consistency and scalability.

B In addition to generally positive economic benefits, other advantages such as convenience, standardized delivery, self-paced learning, and a variety of available content, have made e-learning a high priority for many corporations. E-learning is widely believed to offer flexible "any time, any place" learning. The claim for "any place" is valid in principle and is a great development. Many people can engage with rich learning materials that simply were not possible in a paper or broadcast distance learning era. For teaching specific information and skills, e-training holds great promise. It can be especially effective at helping employees prepare for IT certification programs. E-learning also seems to effectively address topics such as sexual harassment education,5 safety training and management training — all areas where a clear set of objectives can be identified. Ultimately, training experts recommend a "blended" approach that combines both online and in-person training as the instruction requires. E-learning is not an end-all solution. But if it helps decrease costs and windowless classrooms filled with snoring students, it definitely has its advantages.

C Much of the discussion about implementing e-learning has focused on the technology, but as Driscoll and others have reminded us, e-learning is not just about the technology, but also many human factors. As any capable manager knows, teaching employees new skills is critical to a smoothly run business. Having said that, however, the traditional route of classroom instruction runs the risk of being expensive, slow and, often times, ineffective. Perhaps the classroom's greatest disadvantage is the fact that it takes employees out of their jobs. Every minute an employee is sitting in a classroom training session is a minute they're not out on the floor working. It now looks as if there is a way to circumvent these traditional training drawbacks. E-training promises more effective teaching techniques by integrating audio, video, animation, text and interactive materials with the intent of teaching each student at his or her own pace. In addition to higher performance results, there are other immediate benefits to students such as increased time on task, higher levels of motivation, and reduced test anxiety for many learners. A California State University Northridge study reported that e-learners performed 20 percent better than traditional learners. Nelson reported a significant difference between the mean grades of 406 university students earned in traditional and distance education classes, where the distance learners outperformed the traditional learners.

D On the other hand, nobody said E-training technology would be cheap. E-training service providers, on the average, charge from $10,000 to $60,000 to develop one hour of online instruction. This price varies depending on the complexity of the training topic and the media used. HTML pages are a little cheaper to develop while streaming-video (presentations or flash animations cost more. Course content is just the starting place for the cost. A complete e-learning solution also includes the technology platform (the computers, applications and network connections that are used to deliver the courses). This technology platform, known as a learning management system (LMS), can either be installed onsite or outsourced. Add to that cost the necessary investments in network bandwidth to deliver multimedia courses, and you're left holding one heck of a bill. For the LMS infrastructure and a dozen or so online courses, costs can top $500,000 in the first year. These kinds of costs mean that custom e-training is, for the time being, an option only for large organizations. For those companies that have a large enough staff, the e-training concept pays for itself. Aware of this fact, large companies are investing heavily in online training. Today, over half of the 400-plus courses that Rockwell Collins offers are delivered instantly to its clients in an e-leaming format, a change that has reduced its annual (training costs by 40%. Many other success stories exist.

E E-learning isn71 expected to replace the classroom entirely. For one thing, bandwidth limitations are still an issue in presenting multimedia over the Internet. Furthermore, e-training isn't suited to every mode of instruction or topic. For instance, it's rather ineffective imparting cultural values or building teams. If your company has a unique corporate culture it would be difficult to convey that to first time employees through a computer monitor. Group training sessions are more ideal for these purposes. In addition, there is a perceived loss of research time because of the work involved in developing and teaching online classes. Professor Wallin estimated that it required between 500 and 1,000 person-hours, that is, Wallin-hours, to keep the course at the appropriate level of currency and usefulness. (Distance learning instructors often need technical skills, no matter how advanced the courseware system.) That amounts to between a quarter and half of a person-year. Finally, teaching materials require computer literacy and access to equipment. Any e-Learning system involves basic equipment and a minimum level of computer knowledge in order to perform the tasks required by the system. A student that does not possess these skills, or have access to these tools, cannot succeed in an e-Learning program.

F While few people debate the obvious advantages of e-learning, systematic research is needed to confirm that learners are actually acquiring and using the skills that are being taught online, and that e-learning is the best way to achieve the outcomes in a corporate environment. Nowadays, a go-between style of Blended learning, which refers to a mixing of different learning environments, is gaining popularity. It combines traditional face-to-face classroom methods with more modem computer-mediated activities. According to its proponents, the strategy creates a more integrated approach for both instructors and learners. Formerly, technology-based materials played a supporting role in face-to-face instruction. Through a blended learning approach, technology will be more important

Questions 28-33

The reading passage has seven paragraphs, A-F

Choose the correct heading for paragraphs A-F from the list below. Write the correct number, i-xi in boxes 28-33 on your answer sheet.

	List of Headings
i	overview of the benefits for the application of E-training
ii	IBM's successful choice of training
iii	Future direction and a new style of teaching
iv	learners7 achievement and advanced teaching materials
v	limitations when E-training compares with traditional class
vi	multimedia over the Internet can be a solution
vii	technology can be a huge financial burden
viii	the distance learners outperformed the traditional university learners in worldwide
ix	other advantages besides economic consideration
x	Training offered to help people learn using computers

28. Paragraph A

29. Paragraph B

30. Paragraph C

31. Paragraph D

32. Paragraph E

33. Paragraph F

Questions 34-37

The reading Passage has seven paragraphs A-F.

Which paragraph contains the following information?

Write the correct letter A-F, in boxes 35-37 on your answer sheet.

34. Projected Basic Blue in IBM achieved great success.

35. E-learning wins as a priority for many corporations as its flexibility.

36. The combination of traditional and e-training environments may prevail.

37. Example of fast electronic delivery for a company's products to its customers.

Questions 38-40

Choose Three correct letters, among A-E

Write your answers in boxes 38-40 on your answer sheet.

A Technical facilities are hardly obtained.

B Presenting multimedia over the Internet is restricted due to the bandwidth limit.

C It is ineffective imparting a unique corporate value to fresh employees.

D Employees need to block a long time leaving their position attending the training.

E More preparation time is needed to keep the course at a suitable level.

ANSWER KEYS

1 TRUE 8 FALSE 3 TRUE 4 NOT GIVEN

5 Elm 6 Lubricating oil
7 Dish 8 18 – 32 9 Struts
10 Bronze 11 Neck 12 Sand
13 Tomb complex

14 ii 15 v 16 i 17 viii 18 vi 19 iii 20 iv

21 1950s 22 (being) shy/ shyness
23 Starvation 24 Native(fish)

25 Partnership project/ network(of sites)/ partnership project network
26 Otter and brown – hare 27 B

28 i 29 ix 30 iv
31 vii 32 V 33 iii
34 A 35 B 36 F
37 D 38 B 39 C 40 E

TEST 6. SECTION 1

Dirty river but clean water

Floods can occur in rivers when the flow rate exceeds the capacity of the river channel, particularly at bends or meanders in the waterway. Floods often cause damage to homes and businesses if they are in the natural flood plains of rivers. While riverine flood damage can be eliminated by moving away from rivers and other bodies of water, people have traditionally lived and worked by rivers because the land is usually flat and fertile and because rivers provide easy travel and access to commerce and industry.

A FIRE and flood are two of humanity's worst nightmares. People have, therefore**,** always sought to control them. Forest fires are snuffed out quickly. The flow of rivers is regulated by weirs and dams. At least, that is how it used to be. But foresters have learned that forests need fires to clear out the brush and even to get seeds to germinate. And a similar revelation is now dawning on hydrologists. Rivers — and the ecosystems they support — need floods. That is why a man-made torrent has been surging down the Grand Canyon. By Thursday March 6th it was running at full throttle, which was expected to be sustained for 60 hours.

B Floods once raged through the canyon every year. Spring Snow from as far away as Wyoming would melt and swell the Colorado river to a flow that averaged around 1,500 cubic metres (50,000 cubic feet) a second. Every eight years or so, that figure rose to almost 3,000 cubic metres. These floods infused the river with sediment, carved its beaches and built its sandbars.

C However, in the four decades since the building of the Glen Canyon dam, just upstream of the Grand Canyon, the only sediment that it has collected has come from tiny, undammed tributaries. Even that has not been much use as those tributaries are not powerful enough to distribute the sediment in an ecologically valuable way.

D This lack of flooding has harmed local wildlife. The humpback chub, for example, thrived in the rust-red waters of the Colorado. Recently, though, its population has crashed. At first sight, it looked as if the reason was that the chub were being eaten by trout introduced for sport fishing in the mid-20th century. But trout and chub co-existed until the Glen Canyon dam was built, so something else is going on. Steve Gloss, of the United States' Geological Survey (USGS), reckons that the chub's decline is the result of their losing their most valuable natural defense, the Colorado's rusty sediment. The chub were well adapted to the poor visibility created by the thick, red water which gave the river its name, and depended on it to hide from predators. Without the cloudy water the chub became vulnerable.

E And the chub are not alone. In the years since the Glen Canyon dam was built, several species have vanished altogether. These include the Colorado pike-minnow, the razorback sucker and the roundtail chub. Meanwhile, aliens including fathead minnows, channel catfish and common carp, which would have been hard, put to survive in the savage waters of the undammed canyon, have moved in.

F So flooding is the obvious answer. Unfortunately, it is easier said than done. Floods were sent down the Grand Canyon in 1996 and 2004 and the results were mixed. In 1996 the flood was allowed to go on too long. To start with, all seemed well. The floodwaters built up sandbanks and infused the river with sediment. Eventually, however, the continued flow washed most of the sediment out of the canyon. This problem was avoided in 2004, but unfortunately, on that occasion, the volume of sand available behind the dam was too low to rebuild the sandbanks. This time, the USGS is convinced that things will be better. The amount of sediment available is three times greater than it was in 2004. So if a flood is going to do some good, this is the time to unleash one.

G Even so, it may turn out to be an empty gesture. At less than 1,200 cubic metres a second, this flood is smaller than even an average spring flood, let alone one of the mightier deluges of the past. Those glorious inundations moved massive quantities of sediment through the Grand Canyon, wiping the slate dirty, and making a muddy mess of silt and muck that would make modem river rafters cringe.

Questions 1-7

Do the following statements agree with the information given in Reading Passage 1? Refer the box given below and answer the questions from 1 to 7 on your answer sheet.

TRUE	if the statement is true
FALSE	if the statement is false
NOT GIVEN	if the information is not given in the passage

1. Damage caused by fire is worse than that caused by flood.

2. The flood peaks at almost 1500 cubic meters every eight years.

3. Contribution of sediments delivered by tributaries has little impact.

4. Decreasing number of chubs is always caused by introducing of trout since mid-20th

5. It seemed that the artificial flood in 1996 had achieved success partly at the very beginning

6. In fact, the yield of artificial flood water is smaller than an average natural flood at present.

7. Mighty floods drove fast moving flows with clean and high-quality water.

Questions 8-13

- Complete the summary below.
- Choose NO MORE THAN TWO WORDS from the passage for each answer.
- Write your answers in boxes for questions 8-13 on your answer sheet.

The Eco- Impact of the Canyon Dam

Floods are peopled nightmare. In the past, canyon was raged by flood every year. The snow from far Wyoming would melt in the season of **8**…….. and caused a flood flow peak in Colorado river. In the four decades after people built the Glen Canyon dam, it only could gather **9**…….. together from tiny, undammed tributaries.

humpback chub population reduced, why?

Then, several species disappeared including Colorado pike-minnow, **10** …… and the round-tail chub. Meanwhile, some moved in such as fathead minnows, channel catfish and **11**…… The non-stopped flow led to the washing away of the sediment out of the canyon, which poses great threat to the chubs because it has poor **12**…… away from predators. In addition, the volume of **13**…… available behind the dam was too tow to rebuild the bars and flooding became more serious.

SECTION 2

Smell and Memory

SMELLS LIKE YESTERDAY

Why does the scent of a fragrance or the mustiness of an old trunk trigger such powerful memories of childhood? New research has the answer, writes Alexandra Witze.

A You probably pay more attention to a newspaper with your eyes than with your nose. But lift the paper to your nostrils and inhale. The smell of newsprint might carry you back to your childhood, when your parents perused the paper on Sunday mornings. Or maybe some other smell takes you back- the scent of your mother's perfume, the pungency of a driftwood campfire. Specific odours can spark a flood of reminiscences. Psychologists call it the "Proustian phenomenon ", after French novelist Marcel Proust. Near the beginning of the masterpiece In Search of Lost Time, Proust's narrator dunks a madeleine cookie into a cup of tea – and the scent and taste unleash a torrent of childhood memories for 3000 pages.

B Now, this phenomenon is getting the scientific treatment. Neuroscientists Rachel Herz, a cognitive neuroscientist at Brown University in Providence, Rhode Island, have discovered, for instance, how sensory memories are shared across the brain, with different brain regions remembering the sights, smells, tastes and sounds of a particular experience. Meanwhile, psychologists have demonstrated that memories triggered by smells can be more emotional, as well as more detailed, than memories not related to smells. When you inhale, odour molecules set brain cells dancing within a region known as the amygdala, a part of the brain that helps control emotion. In contrast, the other senses, such as taste or touch, get routed through other parts of the brain before reaching the amygdala. The direct link between odours and the amygdala may help explain the emotional potency of smells. "There is this unique connection between the sense of smell and the part of the brain that processes emotion," says Rachel Herz.

C But the links don't stop there. Like an octopus reaching its tentacles outward, the memory of smells affects other brain regions as well. In recent experiments, neuroscientists at University College London (UCL) asked 15 volunteers to look at pictures while smelling unrelated odours. For instance, the subjects might see a photo of a duck paired with the scent of a rose, and then be asked to create a story linking the two. Brain scans taken at the time revealed that the volunteers' brains were particularly active in a region known as the olfactory cortex, which is known to be involved in processing smells. Five minutes later, the volunteers were shown the duck photo again, but without the rose smell. And in their brains, the olfactory cortex lit up again, the scientists reported recently. The fact that the olfactory cortex became active in the absence of the odour suggests that people's sensory memory of events is spread across different brain regions. Imagine going on a seaside holiday, says UCL team leader, Jay Gottfried. The sight of the waves becomes stored in one area, whereas the crash of the surf goes elsewhere, and the smell of seaweed in yet another place. There could be advantages to having memories spread around the brain. "You can reawaken that memory from any one of the sensory triggers," says Gottfried. ''Maybe the smell of the sun lotion, or a particular sound from that day, or the sight of a rock formation." Or – in the case of an early hunter and gatherer (out on a plain – the sight of a lion might be trigger the urge to flee, rather than having to wait for the sound of its roar and the stench of its hide to kick in as well.

D Remembered smells may also carry extra emotional baggage, says Herz. Her research suggests that memories triggered by odours are more emotional than memories triggered by other cues. In one recent study, Herz recruited five volunteers who had vivid memories associated with a particular perfume, such as opium for Women and Juniper Breeze from Bath and Body Works. She took images of the volunteers' brains as they sniffed that perfume and an unrelated perfume without knowing which was which. (They were also shown photos of each perfume bottle.) Smelling the specified perfume activated the volunteers brains the most, particularly in the amygdala, and in a region called the hippocampus, which helps in memory formation. Herz published the work earlier this year in the journal Neuropsychologia.

E But she couldn't be sure that the other senses wouldn't also elicit a strong response. So in another study Herz compared smells with sounds and pictures. She had 70 people describe an emotional memory involving three items – popcorn, fresh-cut grass and a campfire. Then they compared the items through sights, sounds and smells. For instance, the person might see a picture of a lawnmower, then sniff the scent of grass and finally listen to the lawnmower's sound. Memories triggered by smell were more evocative than memories triggered by either sights or sounds.

F Odour-evoked memories may be not only more emotional, but more detailed as well. Working with colleague John Downes, psychologist Simon Chu of the University of Liverpool started researching odour and memory partly because of his grandmother's stories about Chinese culture. As generations gathered to share oral histories, they would pass a small pot of spice or incense around; later, when they wanted to remember the story in as much detail as possible, they would pass the same smell around again. "It's kind of fits with a lot of anecdotal evidence on how smells can be really good reminders of past experiences," Chu says. And scientific research seems to bear out the anecdotes. In one experiment, Chu and Downes asked 42 volunteers to tell a life story, then tested to see whether odours such as coffee and cinnamon could help them remember more detail in the story. They could.

G Despite such studies, not everyone is convinced that Proust can be scientifically analysed. In the June issue of Chemical Senses, Chu and Downes exchanged critiques with renowned perfumer and chemist J. Stephan Jellinek. Jellinek chided the Liverpool researchers for, among other things, presenting the smells and asking the volunteers to think of memories, rather than seeing what memories were spontaneously evoked by the odours. But there's only so much science can do to test a phenomenon that's inherently different for each person, Chu says. Meanwhile, Jellinek has also been collecting anecdotal accounts of Proustian experiences, hoping to find some there is a case to be made that surprise may be a major aspect of the Proust phenomenon," he says. "That's why people are so struck by these memories" No one knows whether Proust ever experienced such a transcendental moment. But his notions of memory, written as fiction nearly a century ago, continue to inspire scientists of today.

Questions 14-18

Use the information in the passage to match the people (listed A-C) with opinions or deeds below. Write the appropriate letters A- C in boxes for the questions 14-18 on your answer sheet. NB you may use any letter more than once

A Rachel Herz

B Simon Chu

C Jay Gottfried

14. Found pattern of different sensory memories stored in various zones of a brain.

15. Smell brings detailed event under a smell of certain substance.

16. Connection of smell and certain zones of brain is different with that of other senses.

17. Diverse locations of stored information help us keep away the hazard.

18. There is no necessary correlation between smell and processing zone of brain.

Questions 19-22

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

Write your answers in boxes 19-22 on your answer sheet.

19. What does the experiment conducted by Herz show?

A Women are more easily addicted to opium medicine

B Smell is superior to other senses in connection to the brain

C Smell is more important than other senses

D Amygdala is part of brain that stores processes memory

20. What does the second experiment conducted by Herz suggest?

A Result directly conflicts with the first one

B Result of her first experiment is correct

C Sights and sounds trigger memories at an equal level

D Lawnmower is a perfect example in the experiment

21. What is the outcome of experiment conducted by Chu and Downes?

A smell is the only functional under Chinese tradition

B half of volunteers told detailed stories

C smells of certain odours assist story tellers

D odours of cinnamon is stronger than that of coffee

22. What is the comment of Jellinek to *Chu and Downers* in the issue of *Chemical Senses:*

A Jellinek accused their experiment of being unscientific

B Jellinek thought Liverpool is not a suitable place for experiment

C Jellinek suggested that there was no further clue of what specific memories aroused

D Jellinek stated that experiment could be remedied

Questions 23-26

Summary

Complete the following summary of the paragraphs of Reading Passage, using **not more than three** words from the Reading Passage for each answer. Write your answers in boxes 23-26 on your answer sheet.

In the experiments conducted by UCL, participants were asked to look at a picture with a scent of a flower, then in the next stage, everyone would have to…… **23**…….. for a connection.

A method called…… **24**……. suggested that specific area of brain named……. **25**……. were quite active. Then in another paralleled experiment about

Chinese elders, storytellers could recall detailed anecdotes when smelling bowl of…… **26**…… or incense around.

SECTION 3

Soviet's new working week

Historian investigates how Stalin changed the calendar to keep the Soviet people continually at work.

A "There are no fortresses that Bolsheviks cannot storm". With these words, Stalin expressed the dynamic self-confidence of the Soviet Union's Five Year Plan: weak and backward Russia was to turn overnight into a powerful modem industrial country. Between 1928 and 1932， production of coal, iron and steel increased at a fantastic rate, and new industrial cities sprang up, along with the world's biggest dam. Everyone's life was affected, as collectivised farming drove millions from the land to swell the industrial proletariat. Private enterprise disappeared in city and country, leaving the State supreme under the dictatorship of Stalin. Unlimited enthusiasm was the mood of the day, with the Communists believing that iron will and hard-working manpower alone would bring about a new world.

B Enthusiasm spread to time itself, in the desire to make the state a huge efficient machine, where not a moment would be wasted, especially in the workplace. Lenin had already been intrigued by the ideas of the American Frederick Winslow Taylor (1856-1915), whose time-motion studies had discovered ways of stream-lining effort so that every worker could produce the maximum. The Bolsheviks were also great admirers of Henry Ford's assembly line mass production and of his Fordson tractors that were imported by the thousands. The engineers who came with them to train their users helped spread what became a real cult of Ford. Emulating and surpassing such capitalist models formed part of the training of the new Soviet Man, a heroic figure whose unlimited capacity for work would benefit everyone in the dynamic new society. All this culminated in the Plan, which has been characterized as the triumph of the machine, where workers would become supremely efficient robot-like creatures.

C Yet this was Communism whose goals had always included improving the lives of the proletariat. One major step in that direction was the sudden announcement in 1927 that reduced the working day from eight to seven hours. In January 1929, all Indus-tries were ordered to adopt the shorter day by the end of the Plan. Workers were also to have an extra hour off on the eve of Sundays and holidays. Typically though, the state took away more than it gave, for this was part of a scheme to increase production by establishing a three-shift system. This meant that the factories were open day and night and that many had to work at highly undesirable hours.

D Hardly had that policy been announced, though, than Yuri Larin, who had been a close associate of Lenin and architect of his radical economic policy, came up with an idea for even greater efficiency.

Workers were free and plants were closed on Sundays. Why not abolish that wasted day by instituting a continuous work week so that the machines could operate to their full capacity every day of the week? When Larin presented his idea to the Congress of Soviets in May 1929, no one paid much attention. Soon after, though, he got the ear of Stalin, who approved. Suddenly, in June, the Soviet press was filled with articles praising the new scheme. In August, the Council of Peoples' Commissars ordered that the continuous work week be brought into immediate effect, during the height of enthusiasm for the Plan, whose goals the new schedule seemed guaranteed to forward.

E The idea seemed simple enough, but turned out to be very complicated in practice. Obviously, the workers couldn't be made to work seven days a week, nor should their total work hours be increased. The solution was ingenious: a new five-day week would have the workers on the job for four days, with the fifth day free; holidays would be reduced from ten to five, and the extra hour off on the eve of rest days would be abolished. Staggering the rest-days between groups of workers meant that each worker would spend the same number of hours on the job, but the factories would be working a full 360 days a year instead of 300. The 360 divided neatly into 72 five-day weeks. Workers in each establishment (at first factories, then stores and offices) were divided into five groups, each assigned a colour which appeared on the new Uninterrupted Work Week calendars distributed all over the country. Colour-coding was a valuable mnemonic device, since workers might have trouble remembering what their day off was going to be, for it would change every week. A glance at the colour on the calendar would reveal the free day, and allow workers to plan their activities. This system, however, did not apply to construction or seasonal occupations, which followed a six-day week, or to factories or mines which had to close regularly for maintenance: they also had a six-day week, whether interrupted (with the same day off for everyone) or continuous. In all cases, though, Sunday was treated like any other day.

F Official propaganda touted the material and cultural benefits of the new scheme. Workers would get more rest; production and employment would increase (for more workers would be needed to keep the factories running continuously); the standard of living would improve. Leisure time would be more rationally employed, for cultural activities (theatre, clubs, sports) would no longer have to be crammed into a weekend, but could flourish every day, with their facilities far less crowded. Shopping would be easier for the same reasons. Ignorance and superstition, as represented by organized religion, would suffer a mortal blow, since 80 per cent of the workers would be on the job on any given Sunday. The only objection concerned the family, where normally more than one member was working: well, the Soviets insisted, the narrow family was far less important than the vast common good and besides, arrangements could be made for husband and wife to share a common schedule. In fact, the regime had long wanted to weaken or sideline the two greatest potential threats to its total dominance: organised religion and the nuclear family. Religion succumbed, but the family, as even Stalin finally had to admit, proved much more resistant.

G The continuous work week, hailed as a Utopia where time itself was conquered and the sluggish Sunday abolished forever, spread like an epidemic. According to official figures, 63 per cent of industrial workers were so employed by April 1930; in June, all industry was ordered to convert during the next year. The fad reached its peak in October when it affected 73 per cent of workers. In fact, many managers simply claimed that their factories had gone over to the new week, without actually applying it. Conforming to the demands of the Plan was important; practical matters could wait. By then, though, problems were becoming obvious. Most serious (though never officially admitted), the workers hated it. Coordination of family schedules was virtually impossible and usually ignored, so husbands and wives only saw each other before or after work; rest days were empty without any loved ones to share them — even friends were likely to be on a different schedule. Confusion reigned: the new plan was introduced haphazardly, with some factories operating five-, six- and seven-day weeks at the same time, and the workers often not getting their rest days at all.

H The Soviet government might have ignored all that (It didn't depend on public approval) , but the new week was far from having the vaunted effect on production. With the complicated rotation system, the work teams necessarily found themselves doing different kinds of work in successive weeks. Machines, no longer consistently in the hands of people who knew how to tend them, were often poorly maintained or even broken. Workers lost a sense of responsibility for the special tasks they had normally performed.

I As a result, the new week started to lose ground. Stalin's speech of June 1931, which criticised the "depersonalised labor" its too hasty application had brought, marked the beginning of the end. In November, the government ordered the widespread adoption of the six-day week, which had its own calendar, with regular breaks on the 6th, 12th, 18th, 24th, and 30th, with Sunday usually as a working day. By July 1935, only 26 per cent of workers still followed the continuous schedule, and the six-day week was soon on its way out. Finally, in 1940, as part of the general reversion to more traditional methods, both the continuous five-day week and the novel six-day week were abandoned, and Sunday returned as the universal day of rest. A bold but typically ill-conceived experiment was at an end.

Questions 27-34

Reading Passage 2 has nine paragraphs A-I.

Choose the correct heading for each paragraph from the list of headings below. Write the correct number i-xii in boxes 27-34 on your answer sheet.

	List of Headings

i	Benefits of the new scheme and its resistance
ii	Making use of the once wasted weekends
iii	Cutting work hours for better efficiency
iv	Optimism of the great future
v	Negative effects on production itself
vi	Soviet Union's five year plan
vii	The abolishment of the new work-week scheme
viii	The Ford model
ix	Reaction from factory workers and their families
x	The color-coding scheme
xi	Establishing a three-shift system
xii	Foreign inspiration

27. Paragraph A

28. Paragraph B

29. Paragraph D

30. Paragraph E

31. Paragraph F

32. Paragraph G

33. Paragraph H

33. Paragraph I

Example	**Answer**
Paragraph C	iii

Questions 35-37

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

Write your answers in boxes for questions 35-37 on your answer sheet.

35. According to paragraph A, Soviet's five year plan was a success because

A Bolsheviks built a strong fortress.

B Russia was weak and backward.

C industrial production increased.

D Stalin was confident about Soviet's potential.

36. Daily working hours were cut from eight to seven to

A improve the lives of all people.

B boost industrial productivity.

C get rid of undesirable work hours.

D change the already establish three-shift work system.

37. Many factory managers claimed to have complied with the demands of the new work week because

A they were pressurized by the state to do so.

B they believed there would not be any practical problems.

C they were able to apply it.

D workers hated the new plan.

Questions 38-40

Answer the questions below using NOT MORE THAN TWO WORDS from the passage for each answer.

Write your answers in boxes for questions 38-40 on your answer sheet.

38. Whose idea of continuous work week did Stalin approve and helped to implement?

39. What method was used to help workers to remember the rotation of their off days?

40. What was the most resistant force to the new work week scheme?

ANSWER KEYS

1	NOT GIVEN	**2**	FALSE	**3**	YES
4	FALSE	**5**	TRUE	**6**	TRUE
7	NOT GIVEN	**8**	Spring	**3**	Sediment
10	Razorback sucker	**11**	Common carp	**12**	Visibility
13	sand				

14	A	**15**	B	**16**	A
17	C	**18**	C	**19**	D
20	B	**21**	C	**22**	C
23	Create a story	**24**	Brain scans	**25**	Olfactory cortex
26	Spice				

27	iv	**28**	Xii	**29**	ii
30	x	**31**	I	**32**	ix
33	v	**34**	Vii	**35**	C
36	B	**37**	A	**38**	Yuri Larin
39	Colour – coding/ colour	**40**	Family		

TEST 7 Reading Passage 1

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

Computer Games for Preschoolers: Nintendo's Research and Design Process

A. Designing computer games for young children is a daunting task for game producers, who, for a long time, have concentrated on more "hard core" game fans. This article chronicles the design process and research involved in creating Nintendo DS for preschool gamers.

B. After speaking with our producers who have a keen interest in designing for the DS, we finally agreed on three key goals for our project. First, to understand the range of physical and cognitive abilities of preschoolers in the context of handheld system game play; second, to understand how preschool gamers interact with the DS, specifically how they control the different forms of play and game mechanics offered by the games presently on the market for this platform; third, to understand the expectations of preschoolers, parents concerning the handheld systems as well as the purchase and play contexts within which game play occurs. The team of the research decided that in-home ethnographies with preschoolers and their families would yield comprehensive database with which to give our producers more information and insights, so we start by conducting 26 in-home ethnographies in three markets across the United States: an East coast urban/suburban area, a West coast urban/suburban area, and a Midwest suburban/rural area.

C. The subjects in this study included 15 girls and 11 boys ranging from 3 years and 3 months old to 5 years and 11 months old. Also, because previous research had shown the effects of older siblings on game play (demonstrated, for example, by more advanced motor coordination when using a computer mouse), households were employed to have a combination of preschoolers with and without elder peers. In order to understand both "experienced" and "new" preschool users of the platform, we divided the sample so that 13 families owned at least one Nintendo DS and the others did not. For those households that did not own a DS, one was brought to the interview for the kid to play. This allowed us to see both the instinctive and intuitive movements of the new players (and of the more experienced players when playing new games), as well as the learned movements of the more experienced players. Each of those interviews took about 60 to 120 minutes and included the preschooler, at least one parent, and often siblings and another caregiver.

D. Three kinds of information were collected after each interview. From any older siblings and the parents that were available, we gathered data about : the buying decisions surrounding game systems in the household, the family's typical game play patterns, levels of parental moderation with regard to computer gaming, and the most favorite games played by family members .We could also

understand the ideology of gaming in these homes because of these in-home interviews： what types of spaces were used for game play， how the systems were installed, where the handheld play occurred in the house (as well as on-the-go play), and the number and type of games and game systems owned. The most important is, we gathered the game-playing information for every single kid.

E. Before carrying out the interviews, the research team had closely discussed with the in-house game producers to create a list of game mechanics and problems tied to preschoolers* motor and cognitive capabilities that were critical for them to understand prior to writing the games. These ranged from general dexterity issues related to game controllers to the effectiveness of in-game instructions to specific mechanics in current games that the producers were interested in implementing for future preschool titles. During the interviews, the moderator gave specific guidance to the preschooler through a series of games, so that he or she could observe the interaction and probe both the preschooler and his or her parents on feelings, attitudes, and frustrations that arose in the different circumstances

F. If the subject in the experiment had previous exposure to the DS system, he or she was first asked to play his or her favorite game on that machine. This gave the researchers information about current of gaming skill related to the complexity of the chosen one, allowing them to see the child playing a game with mechanics he or she was already familiar with. Across the 26 preschoolers, the Nintendo DS selections scope were very broad， including New Super Mario Bros, Sonic Rush. Nintendo, and Tony Hawk's Proving Ground. The interviewer observed the child play， noting preferences for game mechanics and motor interactions with the device as well as the complexity level each game mechanic was for the tested subject The researchers asked all of the preschoolers to play with a specific game in consultation with our producers, The Little Mermaid: Ariel's Undersea Adventure. The game was chosen for two major reasons. First, it was one of the few games on the market with characters that appeal to this young age group. Second, it incorporated a large variety of mechanics that highlighted the uniqueness of the DS platform, including using the microphone for blowing or singing.

G. The findings from this initial experiment were extensive. After reviewing the outcomes and discussing the implications for the game design with our internal game production team, we then outlined the designing needs and presented the findings to a firm specialising in game design. We worked closely with those experts to set the game design for the two preschool-targeted DS games under development on what we had gathered.

H. As the two DS games went into the development process, a formative research course of action was set up. Whenever we developed new game mechanics, we brought preschoolers into our in-house utility lab to test the mechanics and to evaluate both their simplicity, and whether they were engaging. We tested either alpha or beta versions of different elements of the game, in addition to looking at overarching game structure. Once a full version of the DS game was ready, we went back into the field

test with a dozen preschoolers and their parents to make sure that each of the game elements worked for the children, and that the overall objective of the game was understandable and the process was enjoyable for players. We also collected parents' feedback on whether they thought the game is appropriate, engaging, and worth the purchase.

Questions 1-5

Complete the sentences below.

Choose ONE WORD ONLYfrom the passage for each answer. Write your answers in

boxes 1-5 on your answer sheet

Exploratory Research Project

Main Objectives:

Determine the relevant 1_____ in the context

Observe how preschoolers manage playing

Investigate attitudes of 2_____ towards games

Subjects:

26 children from different US 3_____

Age range: 3 years and 3 months to 5_years and 11 months

Some children have older 4_____ in the house as playing peers.

Equal number of new and 5_____ players

Some households have Nintendo DS and some don't

Length of Interview:

1-2 hours

Questions 6-9

Do following statements agree with the information given in Reading Passage 1In boxes 6-9 on your answer sheet, write

TRUE if the statement agrees with the information

FALSE if the statement contradicts the information

NOT GIVEN if there is no information a on this

6. One area of research is how far mothers and fathers controlled children's playing after school.

7. Some researchers are allowed an access to the subjects' houses.

8. The researchers regarded The Little Mermaid: Ariel's Undersea Adventure as likely appeal to preschoolers.

9. The Little Mermaid: Ariel's Undersea Adventure *is entirely designed for preschool children.*

Questions 10-13

Complete the flow-chart below.

Choose NO MORE THAN TWO WORDS from the passage for each answer Write your answers in boxes 10-13 on your answer sheet.

Using the Results of the Study

Presentation of design requirements to a specialist 10_____

Testing the mechanics of two new games in the Nintendo lab (assess 11 _____ and interest)

A field test in 12_____ trailed by twelve children

Collection of 13_____ from parents

Reading Passage 2

The History of pencil

A. The beginning of the story of pencils started with a lightning. Graphite, the main material for producing pencil, was discovered in 1564 in Boirowdale in England when a lightning struck a local tree

during a thunder. Local people found out that the black substance spotted at the root of the unlucky tree was different from burning ash of wood. It was soft, thus left marks everywhere. Chemistry was barely out of its infancy at the time, so people mistook it for lead, equally black but much heavier. It was soon put to use by locals in marking their sheep for signs of ownership and calculation.

B. Britain turns out to be the major country where mines of graphite can be detected and developed. Even so, the first pencil was invented elsewhere. As graphite is soft, it requires some form of encasement. In Italy, graphite sticks were initially wrapped in string or sheepskin for stability, becoming perhaps the very first pencil in the world. Then around 1560, an Italian couple made what are likely the first blueprints for the modem, wood-encased carpentry pencil. Their version was a flat, oval, more compact type of pencil. Their concept involved the hollowing out of a stick of juniper wood. Shortly thereafter in 1662， a superior technique was discovered by German people: two wooden halves were carved, a graphite stick inserted, and the halves then glued together – essentially the same method in use to this day. The news of usefulness of these early pencils spread far and wide, attracting the attention of artists all over the known world.

C. Although graphite core in pencils is still referred to as lead, modem pencils do not contain lead as the “lead “of the’ pencil is actually a mix of finely ground graphite and clay powders. This mixture is important because the amount of clay content added to the graphite depends on intended pencil hardness, and the amount of time spent on grinding the mixture determines the quality of the lead. The more clay you put in, the higher hardness the core has. Many pencils across the world, and almost all in Europe, are graded on the European system. This system of naming used B for black and H for hard; a pencil’s grade was described by a sequence or successive Hs or Bs such as BB and BBB for successively softer leads, and HH and HHH for successively harder ones. Then the standard writing pencil is graded HB.

D. In England, pencils continued to be made from whole sawn graphite. But with the mass production of pencils, they are getting drastically more popular in many countries with each passing decade. As demands rise, appetite for graphite soars. According to the United States Geological Survey (USGS), world production of natural graphite in 2012 was 1,100,000 tonnes, of which the following major exporters are: China, India, Brazil, North Korea and Canada.

When the value of graphite was realised, the mines were taken over by the government and guarded. One of its chief uses during the reign of Elizabeth I in the second half of the 16th century was as moulds for the manufacture of camion balls. Graphite was transported from Keswick to London in armed stagecoaches. In 1751 an Act of Parliament was passed making it an offence to steal or receive “wad”. This crime was punishable by hard labour or transportation.

E. That the United States did not use pencils in the outer space till they spent $1000 to make a pencil to use in zero gravity conditions is in fact a fiction. It is widely known that astronauts in Russia used grease pencils, which don't have breakage problems. But it is also a fact that their counterparts in the United States used pencils in the outer space before real zero gravity pencil was invented .They preferred mechanical pencils, which produced fine lines, much clearer than the smudgy lines left by the grease pencils that Russians favoured. But the lead tips of these mechanical pencils broke often. That bit of graphite floating around the space capsule could get into someone's eye, or even find its way into machinery or electronics short or other problems. But despite the fact that the Americans did invent zero gravity pencil later, they stuck to mechanical pencils for many years.

F. Against the backcloth of a digitalized world, the prospect of pencils seems bleak. In reality, it does not. The application of pencils has by now become so widespread that they can be seen everywhere, such as classrooms, meeting rooms and art rooms, etc. A spectrum of users are likely to continue to use it into the future: students to do math works, artists to draw on sketch pads, waiters or waitresses to mark on order boards, make-up professionals to apply to faces, and architects to produce blue prints. The possibilities seem limitless

Questions 14-19

Complete the sentences below.

Choose ONE WORD ONLY from the passage for each answer,

Write your answers in boxes 14-19 on your answer sheet

Graphite was found under a 14 _____ in Borrowdale

Ancient people used graphite to sign possession and number of 15 _____ .

The first pencil was graphite wrapped in 16 _____ or animal skin.

In the eighteenth century, the 17_____ value of graphite was realized.

During the reign of Elizabeth I, people was condemnable if they 18 _____ or receive the "wad".

Russian astronauts preferred 19 _____ pencils to write in the outer space.

Questions 20-26

Do the following statements agree with the information given in Rending Passage 2? In boxes20-26 on your answer sheet write

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

20. Italy is probably the first country of the whole world to make pencils.

21. Germany used various kinds of wood to make pencils.

22. Graphite makes a pencil harder and sharper.

23. Pencils are not produced any more since the reign of Elizabeth

24. Pencil was used during the first American space expedition. ‘

25. American astronauts did not replace mechanical pencils immediately after the zero gravity pencils were invented.

26. Pencils are unlikely to be used in the fixture.

Reading Passage 3

Knowledge in Medicine

A. What counts as knowledge? What do we mean when we say that we know something? What is the status of different kinds of knowledge? In order to explore these questions we are going to focus on one particular area of knowledge——medicine.

B. How do you know when you are ill? This may seem to be an absurd question. You know you are ill because you feel ill; your body tells you that you are ill. You may know that you feel pain | or discomfort but knowing you are ill is a bit more complex. At times, people experience the symptoms of illness, but in fact they are simply tired or over-worked or they may just have a ‘ hangover. At other times, people may be suffering from a disease and fail to be aware of the illness until it has reached a late stage in its development. So how do we know we are ill, and what counts as knowledge?

C. Think about this example. You feel unwell. You have a bad cough and always seem to be tired. Perhaps it could be stress at work, or maybe you should give up smoking. You feel worse. You visit the

doctor who listens to your chest and heart, takes your temperature and blood pressure, and then finally prescribes antibiotics for your cough.

D. Things do not improve but you struggle on thinking you should pull yourself together, perhaps things will ease off at work soon. A return visit to your doctor shocks you. This time the doctor, drawing on years of training and experience, diagnoses pneumonia. This means that you will need bed rest and a considerable time off work. The scenario is transformed. Although you still have the same symptoms, you no longer think that these are caused by pressure at work. You now have proof that you are ill. This is the result of the combination of your own subjective experience and the diagnosis of someone who has the status of a medical expert. You have a medically authenticated diagnosis and it appears that you are seriously ill; you know you are ill and have evidence upon which to base this knowledge.

E. This scenario shows many different sources of knowledge. For example, you decide to consult the doctor in the first place because you feel unwell—this is personal knowledge about your own body. However, the doctor's expert diagnosis is based on experience and training, with sources of knowledge as diverse as other experts, laboratory reports, medical textbooks and years of experience.

F. One source of knowledge is the experience of our own bodies; the personal knowledge we have of changes that might be significant, as well as the subjective experience of pain and physical distress. These experiences are mediated by other forms of knowledge such as the words we have available to describe our experience and the common sense of our families and friends as well as that drawn from popular culture. Over the past decade, for example, Western culture has seen a significant emphasis on stress-related illness in the media. Reference to being Stressed out[7] has become a common response in daily exchanges in the workplace and has become part of popular common-sense knowledge. It is thus not surprising that we might seek such an explanation of physical symptoms of discomfort.

G. We might also rely on the observations of others who know us. Comments from friends and family such as [7]you do look ill[7] or 'that's a bad cough[7] might be another source of knowledge. Complementary health practices, such as holistic medicine, produce their own sets of knowledge upon which we might also draw in deciding the nature and degree of our ill health and about possible treatments.

H. Perhaps the most influential and authoritative source of knowledge is the medical knowledge provided by the general practitioner. We expect the doctor to have access to expert knowledge. This is socially sanctioned. It would not be acceptable to notify our employer that we simply felt too unwell to turn up for work or that our faith healer, astrologer, therapist or even our priest thought it was not a good idea. We need an expert medical diagnosis in order to obtain the necessary certificate if we need to be off work for more than the statutory self-certification period. The knowledge of the medical sciences is privileged in this respect in contemporary Western culture. Medical practitioners are also

seen as having the required expert knowledge that permits them legally to prescribe drugs and treatment to which patients would not otherwise have access. However there is a range of different knowledge upon which we draw when making decisions about our own state of health.

I. However, there is more than existing knowledge in this little story; new knowledge is constructed within it. Given the doctor7s medical training and background, she may hypothesize 'is this now pneumonia? and then proceed to look for evidence about it. She will use observations and instruments to assess the evidence and—critically interpret it in the light of her training and experience. This results in new knowledge and new experience both for you and for the doctor. This will then be added to the doctor's medical knowledge and may help in future diagnosis of pneumonia.

Questions 27-32

Complete the table.

Choose no more than three words from the passage for each answer. Write your answers in boxes 27-32 on your answer sheet

Source of knowledge	**Examples**
Personal experience	Symptoms of a (27)…… and tiredness Doctor's measurement by taking (28)…….. and temperature Common judgment from (29)…… around you
Scientific evidence	Medical knowledge from the general (30)…… e.g. doctor's medical(31)…… Examine the medical hypothesis with the previous drill and(32) ……..

Question 33-40

The reading Passage has nine paragraphs A-I

Which paragraph contains the following information?

Write the correct letter A-I, in boxes 33-40 on your answer sheet.

33. the contrast between the nature of personal judgment and the nature of doctor's diagnosis

34. a reference of culture about pressure

35. sick leave will not be permitted without the professional diagnosis

36. how doctors, opinions are regarded in the society

37. the illness of patients can become part of new knowledge

38. a description of knowledge drawn from non-specialized sources other than personal knowledge

39. an example of collective judgment from personal experience and professional doctor

40. a reference that some people do not realize they are ill

Answers

Reading Passage 1

1. Abilities

2. Parents

3. Markets

4. Siblings

5. Experienced

6. NOT GIVEN

7. TRUE

8. TRUE

9. FALSE

10. Firm

11. Simplicity

12. Full version

13. Feedback

Reading Passage 2

14. Tree

15. Sheep

16. Strings

17. Government

18. Steal

19. Grease

20. TRUE

21. NOT GIVEN

22. FALSE

23. TRUE

24. NOT GIVEN

25. TRUE

26. FALSE

Reading Passage 3

27. Bad cough

28. Blood pressure

29. Families and friends

30. Practitioner

31. Diagnosis

32. Background

33. E

34. F

35. H

36. H

37. I

38. G

39. D

40. B

TEST 8. SECTION 1

Pollution in the Bay

A Pouring water into the sea sounds harmless enough. But in Florida Bay, a large and shallow section between the southern end of the Everglades and Florida Keys, it is proving highly controversial. That is because researchers are divided over whether it will help or hinder the plants and animals that live in the bay.

B What is at risk, is the future of the bay's extensive beds of sea grasses. These grow on the bay's muddy floor and act as nurseries for the larvae of shrimps, lobsters and fish—many of them important sport and commercial-fishing species. Also in danger, is an impressive range of coral reefs that run the length of the Florida Keys and form the third-largest barrier reef in the world. Since the 1980s, coral cover has dropped by 40%, and a third of the coral species have gone. This has had a damaging effect on the animals that depend on the reef, such as crabs, turtles and nearly 600 species of fish.

C What is causing such ecological change is a matter of much debate. And the answer is of no small consequence. This is because the American government is planning to devote $8 billion over the next 30 years to revitalising the Everglades. Seasonal freshwater flows into the Everglades are to be restored in order to improve the region's health. But they will then run off into the bay.

D Joseph Zienam, a marine ecologist at the University of Virginia, thinks this is a good idea. He believes that a lack of freshwater in the bay is its main problem. The blame, he says, lies with a century of drainage in the Everglades aimed at turning the marshes into farmland and areas for development. This has caused the flow of freshwater into Florida Bay to dwindle, making the water in the bay, overall, more saline. This, he argues, kills the sea grasses, and as these rot, nutrients are released that feed the microscopic plants and animals that live in the water. This, he says, is why the bay's once crystal-clear waters often resemble a pea soup. And in a vicious circle, these turbid blooms block out sunlight, causing more sea grasses to die and yet more turbidity.

E Brian Lapointe, a marine scientist at the Harbour Branch Oceanographic Institution at Fort Pierce in Florida, disagrees. He thinks sea grasses can tolerate much higher levels of salinity than the bay actually displays. Furthermore, he notes that, when freshwater flows through the Everglades were increased experimentally in the 1990s, it led to massive plankton blooms. Freshwater running off from well-fertilised farmlands, he says, caused a fivefold rise in nitrogen levels in the bay. This was like pouring fuel on a fire. The result was mass mortality of sea grasses because of increased turbidity from the plankton. Dr. Lapointe adds that, because corals thrive only in waters where nutrient levels are low, restoring freshwater rich in nitrogen will do more damage to the reef.

F It is a plausible theory. The water flowing off crops that are grown on the 750,000 acres of heavily fertilised farmland on the northern edge of the Everglades is rich in nitrogen, half of which ends up in the bay. But Bill Kruczynski, of America's Environmental Protection Agency, *is* convinced that nitrogen from farmlands is not the chief problem. Some coral reefs well away from any nitrogen pollution are dying and, curiously, a few are thriving. Dr Kuczynski thinks that increased nutrients arriving from local sewage discharges from the thousands of cesspits along the Florida Keys are part of the problem.

G Such claims and counterclaims make the impact of the restoration plan difficult to predict. If increased salinity is the main problem, the bay's ecology will benefit from the Everglades restoration project If, however, nitrogen is the problem, increasing the flow of freshwater could make matters much worse.

H If this second hypothesis proves correct, the cure is to remove nitrogen from farmland or sewage discharges, or perhaps both, Neither will be easy. Man-made wetlands, at present being built to reduce phosphate run off into the bay- also from fertilisers -would need an algal culture (a sort of contained algal bloom) added to them to deal with discharges from farmlands. That would be costly. So too would be the replacement of cesspits with proper sewerage-one estimate puts the cost at $650m. Either way, it is clear that when, on December 1st, 3,000 square miles of sea around the reef are designated as a "protective zone" by the deputy secretary of commerce, Sam Bodman, this will do nothing to protect the reef from pollution.

I Some argue, though, that there is a more fundamental flaw in the plans for the bay: the very idea of returning it to a utopian ideal before man wrought his damage. Nobody knows what Florida Bay was like before the 1950s, when engineers cut the largest canals in the Everglades and took most of the water away. Dr Kruczynski suspects it was more like an estuary. The bay that many people wish to re-create could have been nothing more than a changing phase in the bay's history.

J These arguments do not merely threaten to create ecological problems but economic ones as well. The economy of the Florida Keys depends on tourism-the local tourist industry has an annual turnover of $2.5 billion. People come for fishing-boat trips, for manatee watching, or for scuba diving and snorkeling to view the exotically coloured corals. If the plan to restore the Everglades makes problems in the bay and the reef worse, it could prove a very expensive mistake.

Questions 1-4

The reading Passage has seven paragraphs A-J.

Which paragraph contains the following information?

Write the correct letter in boxes 1 -4 on your answer sheet

1. See grass turned to be more resistant to the saline water level in the Bay.

2. Signigicance of finding a specific reason in

3. Expensive proposals raised to solve the nitrogen dilemma

4 A statistic of ecological changes in both the coral area and species

Questions 5-8

Use the infomation in the passage to match the people (listed A-C) with opinions or deeds below. Write the appropriate letters A-C in boxes 5-8 on your answer sheet.

A BillKruczynski
B Brian Lapointe
C Joseph Zieman,

5. Drainage system in everglades actually results in high salty water in the bay.

6. Restoring water high in nitrogen level will make more ecological side effect

7. High nitrogen levels may be caused by the nearby farmland.

8. Released sewage rather than nutrients from agricultural area increases the level of Nitrogen.

Questions 9-13

Do the following statements agree with the information given in Reading Passage 2 In boxes 9-13 on your answer sheet, write

TRUE	if the statement is true
FALSE	if the statement is false

NOT GIVEN	if the information is not given in the passage

9. Everyone agree with ‘’pouring water into sea is harmless enough” even in Florida Bay area.

10. Nitrogen was poured in from different types of crops as water flows through.

11. Everglades restoration project can be effective regardless the cause of the pollution.

12. Human has changed Florida Bay where old image before 1950s is unrecalled

13. Tourism contributes fundamentally to economy of the Florida Bay area.

SECTION 2

Can Scientists tell us:

What happiness is?

A Economists accept that if people describe themselves as happy, then they are happy. However, psychologists differentiate between levels of happiness. The most immediate type involves a feeling; pleasure or joy. But sometimes happiness is a judgment that life is satisfying, and does not imply an emotional state. Esteemed psychologist Martin Seligman has spearheaded an effort to study the science of happiness. The bad news is that we’re not wired to be happy. The good news is that we can do something about it. Since its origins in a Leipzig laboratory 130 years ago, psychology has had little to say about goodness and contentment. Mostly psychologists have concerned themselves with weakness and misery. There are libraries full of theories about why we get sad, worried, and angry. It hasn’t been respectable science to study what happens when lives go well. Positive experiences, such as joy, kindness, altruism and heroism, have mainly been ignored. For every 100 psychology papers dealing with anxiety or depression, only one concerns a positive trait.

B A few pioneers in experimental psychology bucked the trend. Professor Alice Isen of Cornell University and colleagues have demonstrated how positive emotions make people think faster and more creatively. Showing how easy it is to give people an intellectual boost, Isen divided doctors making a tricky diagnosis into three groups: one received candy, one read humanistic statements about medicine, one was a control group. The doctors who had candy displayed the most creative thinking and worked more efficiently. Inspired by Isen and others, Seligman got stuck in. He raised

millions of dollars of research money and funded 50 research groups involving 150 scientists across the world. Four positive psychology centres opened, decorated in cheerful colours and furnished with sofas and baby-sitters. There were get-togethers on Mexican beaches where psychologists would snorkel and eat fajitas, then form "pods" to discuss subjects such as wonder and awe. A thousand therapists were coached in the new science.

C But critics *are* demanding answers to big questions. What is the point of defining levels of haziness and classifying the virtues? Aren't these concepts vague and impossible to pin down? Can you justify spending funds to research positive states *when* there are problems such as famine, flood and epidemic depression to be solved? Seligman knows his work can be belittled alongside trite notions such as "the power of positive thinking". His plan to stop the new science floating "on the waves of self-improvement fashion" is to make sure it is anchored to positive philosophy above, and to positive biology below.

D And this takes us back to our evolutionary past Homo sapiens evolved during the Pleistocene era (1.8 m to 10,000 years ago), a time of hardship and turmoil. It *was* the Ice Age, and our ancestors endured long *freezes* as glaciers formed, then ferocious floods as the ice masses melted. We shared the planet with terrifying creatures such as marnmoths, elephant-sized ground sloths and sabre-toothed cats. But by the end of the Pleistocene, all these animals were extinct. Humans, on the other hand, had evolved large brains and used their intelligence to make fire and sophisticated tools, to develop talk and social rituals. Survival in a time of adversity forged our brains into a persistent mould. Professor Seligman says: "Because our brain evolved during a time of ice, flood and famine, we have a catastrophic brain. The way *the* brain works is looking for what's wrong. The problem is, that worked in the Pleistocene era. It favoured you, but it doesn't work in the modem world".

E Although most people rate themselves as happy, there is a wealth of evidence to show that negative thinking is deeply ingrained in the human psycho. Experiments show that we remember failures more vividly than success. We dwell on what went badly, not what went well. Of the six universal emotions, four anger, fear, disgust and sadness are negative and only one, joy, is positive. (The sixth, surprise, is neutral). According to the psychologist Daniel Nettle, author of Happiness, and one of the Royal Institution lectures, the negative emotion each tell us "something bad has happened" and suggest a different course of action.

F What is it about the structure of the brain that underlies our bias towards negative thinking? And is there a biology of joy? At Iowa University, neuroscientist studied what happens when people are shown pleasant and unpleasant pictures. When subjects see landscapes or dolphins playing, part of the frontal lobe of the brain becomes active. But when they are shown unpleasant images a bird covered in oil, or a dead soldier with part of his face missing the response comes from more primitive parts of the brain. The ability to feel negative emotions derives from an ancient danger-recognition system formed

early in the brain's evolution. The pre-frontal cortex, which registers happiness, is the part used for higher thinking, an area that evolved later in human history.

G Our difficulty, according to Daniel Nettle, is that the brain systems for liking and wanting are separate. Wanting involves two ancient regions the amygdala and the nucleus accumbens that communicate using the chemical dopamine to form the brain's reward system. They are involved in anticipating the pleasure of eating and in addiction to drugs. A rat will press a bar repeatedly, ignoring sexually available partners, to receive electrical stimulation of the "wanting" parts of the brain. But having received brain stimulation, the rat eats more but shows no sign of enjoying the food it craved. In humans, a drug like nicotine produces much craving but little pleasure.

H In essence, what the biology lesson tells us is that negative emotions are fundamental to the human condition and it's no wonder they are difficult to eradicate. At the same time, by a trick of nature, our brains are designed to crave but never really achieve lasting happiness.

Questions 14-20

The reading Passage has seven paragraphs A-H.

Which paragraph contains the following information?

Write the correct letter A-H, in boxes 14-20 on your answer sheet.

14. An experiment involving dividing several groups one of which received positive icon

15. Review of a poorly researched psychology area

16. Contrast being made about the brains' action as response to positive or negative stimulus

17. The skeptical attitude toward the research seemed to be a waste of fund

18. a substance that produces much wanting instead of much liking

19. a conclusion that lasting happiness are hardly obtained because of the nature of brains

20. One description that listed the human emotional categories.

Questions 21-25

Complete the following summary of the paragraphs of Reading Passage, using **no more than four words** from the Reading Passage for each answer. Write your answers in boxes 21-25 on your answer sheet.

A few pioneers in experimental psychology study what happens when lives go well. Professor Alice divided doctors, making a tricky experiment, into three groups: beside the one control group, the other two either are asked to read humanistic statements about drugs, or received 21……The latter displayed the most creative thinking and worked more efficiently. Since critics are questioning the significance of the 22…… for both levels of happiness and classification for the virtues. Professor Seligman countered in an evolutional theory: survival in a time of adversity forged our brains into the way of thinking for what's wrong because we have a 23…….

There is bountiful of evidence to show that negative thinking is deeply built in the human psyche. Later, at Iowa University, neuroscientists studied the active parts in brains to contrast when people are shown pleasant and unpleasant pictures. When positive images like 24……..are shown, part of the frontal lobe of the brain becomes active. But when they are shown unpleasant image, the response comes from 25 …… of the brain.

Questions 26

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

Write your answers in boxes 26 on your answer sheet.

according to Daniel Nettle in the last two paragraphs, what is true as the scientists can tell us about happiness

A Brain systems always mix liking and wanting together.

B Negative emotions can be easily rid of if we think positively.

C Happiness is like nicotine we are craving for but get little pleasure.

D The inner mechanism of human brains does not assist us to achieve durable happiness

SECTION 3

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

THE GAP of INGENUITY 2

A Ingenuity, as I define it here, consists not only of ideas for new technologies like computer or drought-resistant crops but, more fundamentally, of ideas for better institutions and social arrangements, like efficient markets and competent governments.

B How much and what kinds of ingenuity a society requires depends on a range of factors, including the society's goals and the circumstances within which it must achieve those goals – – whether it has a young population or an aging one, an abundance of natural resources or a scarcity of them, an easy climate or a punishing one, whatever the case may be.

C How much and what kinds of ingenuity a society supplies also depends on many factors, such as the nature of human inventiveness and understanding, the rewards an economy gives to the producers of useful knowledge, and the strength of political opposition to social and institutional reforms.

D A good supply of the right kind of ingenuity is essential, but it isn't, of course, enough by itself. We know that the creation of wealth, for example, depends not only on an adequate supply of useful ideas but also on the availability of other, more conventional factors of production, like capital and labor. Similarly, prosperity, stability and justice usually depend on the resolution, or at least the containment, of major political struggles over wealth and power. Yet within our economies ingenuity often supplants labor, and growth in the stock of physical plant is usually accompanied by growth in the stock of ingenuity. And in our political systems, we need great ingenuity to set up institutions that successfully manage struggles over wealth and power. Clearly, our economic and -political processes are intimately entangled with the production and use of ingenuity.

E The past century's countless incremental changes in our societies around the planet, in our technologies and our interactions with our surrounding natural environments have accumulated to create a qualitatively new world. Because these changes have accumulated slowly, it's often hard for us to recognize how profound and sweeping they're. They include far larger and denser populations; much higher per capita consumption of natural resources; and far better and more widely available technologies for the movement of people, materials, and especially information.

F In combination, these changes have sharply increased the density, intensity, and pace of our inter actions with each other; they have greatly increased the burden we place on our natural environment; and they have helped shift power from national and international institutions to individuals and subgroups, such as political special interests and ethnic factions.

G As a result, people in all walks of life—from our political and business leaders to all of us in our day-to-day— —must cope with much more complex, urgent, and often unpredictable circumstances. The management of our relationship with this new world requires immense and ever-increasing amounts of social and technical ingenuity. As we strive to maintain or increase our prosperity and improve the quality of our lives, we must make far more sophisticated decisions, and in less time, than ever before.

H When we enhance the performance of any system, from our cars to the planers network of financial institutions, we tend to make it more complex. Many of the natural systems critical to our well-being**,** like the global climate and the oceans, are extraordinarily complex to begin with. We often can't predict or manage the behavior of complex systems with much precision, because they are often very sensitive to the smallest of changes and perturbations, and their behavior can flip from one mode to another suddenly and dramatically. In general, as the human-made and natural systems we depend upon become more complex, and as our demands on them increase, the institutions and technologies we use to manage them must become more complex too, which further boosts our need for ingenuity.

I The good news, though, is that the last century's stunning changes in our societies and technologies have not just increased our need for ingenuity; they have also produced a huge increase in its supply. The growth and urbanization of human populations have combined with astonishing new communication and transportation technologies to expand interactions among people and produce larger, more integrated, and more efficient markets. These changes have, in turn, vastly accelerated the generation and delivery of useful ideas.

J But—and this is the critical "but" we should not jump to the conclusion that the supply of ingenuity always Increases in lockstep with our ingenuity requirement: while it's true that necessity is often the mother of invention, we can't always rely on the right kind of ingenuity appearing when and where we need it. In many cases, the complexity and speed of operation of today's vital economic, social, arid ecological systems exceed the human brain s grasp. Very few of us have more than a rudimentary understanding of how these systems work. They remain fraught with countless "unknown unknowns, which makes it hard to supply the ingenuity we need to solve problems associated with these systems.

K In this book, explore a wide range of other factors that will limit our ability to supply the ingenuity required in the coming century. For example, many people believe that new communication technologies strengthen democracy and will make it easier to find solutions to our societies, collective problems, but the story is less clear than it seems. The crush of information in our everyday lives is shortening our attention span, limiting the time we have to reflect on critical matters of public policy, and making policy arguments more superficial.

L Modem markets and science are an important part of the story of how we supply ingenuity. Markets are critically important, because they give entrepreneurs an incentive to produce knowledge. As for

science, although it seems to face no theoretical limits, at least in the foreseeable future, practical constraints often slow its progress. The cost of scientific research tends to increase as it delves deeper into nature. And science's rate of advance depends on the characteristic of the natural phenomena it investigates, simply because some phenomena are intrinsically harder to understand than others, so the production of useful new knowledge in these areas can be very slow. Consequently, there is often a critical time lag between the recognition between a problem and the delivery of sufficient ingenuity,, in the form of technologies, to solve that problem. Progress in the social sciences is especially slow, for reasons we don't yet understand; but we desperately need better social scientific knowledge to build the sophisticated institutions today's world demands

Questions 27-30

Complete each sentence with the appropriate answer, A, B， C， or D.

Write the correct answer in boxes 27-30 on your answer sheet.

27 Definition of ingenuity

28 The requirement for ingenuity

29 The creation of social wealth

30 The stability of society

A depends on many factors including climate.

B depends on the management and solution of disputes.

C is not only of technological advance, but more of institutional renovation.

D also depends on the availability of some traditional resources.

Questions 31-33

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

Write your answers in boxes 31-33 on your answer sheet.

31 What does the author say about the incremental change of the last 100 years?

A It has become a hot scholastic discussion among environmentalists.

B Its significance is often not noticed.

C It has reshaped the natural environments we live in.

D It benefited a much larger population than ever.

32 The combination of changes has made life:

A easier

B faster

C slower

D less sophisticated

33 What does the author say about the natural systems?

A New technologies are being developed to predict change with precision.

B Natural systems are often more sophisticated than other systems.

C Minor alterations may cause natural systems to change dramatically.

D Technological developments have rendered human being more independent of natural systems.

Questions 34-40

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

In boxes 34 -40 on your answer sheet, write

YES *if the statement is true*

NO *if the statement is false*

NOT GIVEN *if the information is not given in the passage*

34 The demand for ingenuity has been growing during the past 100 years.

35 The ingenuity we have may be inappropriate for solving problems at hand

36 There are very few who can understand the complex systems of the present world

37 ore information will help us to make better decisions

38 The next generation will blame the current government for their conduct

39 Science tends to develop faster in certain areas than others

40 Social science develops especially slowly because it is not as important as natural science

Answer Key

Reading Passage 1

1 E

2 C

3 H

4 B

5 C

6 B

7 B

8 A

9 False

10 Not Given

11 False

12 True

13 True

Reading Passage 2

14 B

15 A

16 F

17 C

18 G

19 H

20 E

21 Candy

22 Definition

23 A catastrophic brain

24 landscape or dolphins playing

25 (more) primitive parts

26 D

Reading Passage 3

27 C

28 A

29 D

30 B

31 B

32 B

33 C

34 T

35 T

36 T

37 F

38 NG

39 T

40 F

TEST 9. Section 1

You should ideally spend 20 minutes on Questions 1-13, which are based on Reading Passage 1.

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.

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 Facult 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 neighbours 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 the 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 labour. 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 1-5

Do the following statements agree with the views of the writer in Reading Passage 1?

In boxes 1-5 on your answer sheet, write

YES	if the statement is true
NO	if the statement is false
NOT GIVEN	if the information is not given in the passage

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

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

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

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

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

Questions 6-13

Complete the sentences below with NO MORE THAN ONE WORD AND from passage 1 for each answer.

Write your answers in boxes 6-13 on your answer sheet.

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

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

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

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

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

11. The Irish _____and climate suited potatoes well.

12. Between 1780 and 1841, based on the _____ of the potatoes, the

Irish population doubled to eight million.

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

Section 2

Can we call it "Art"? (2)

Life-Casting and Art

Julian Bames explores the questions posed by Life-Casts, an exhibition of plaster moulds of living people and objects which were originally used for scientific purposes

A Art changes over time and our idea of what art is changing too. For example, objects originally intended for devotional, ritualistic or recreational purposes may be recategorised as art by members of other later civilisations, such as our own, which no longer respond to these purposes.

B What also happens is that techniques and crafts which would have been judged inartistic at the time they were used are reassessed. Life-casting is an interesting example of this. It involved making a

plaster mould of a living person or thing. This was complex, technical work, as Benjamin Robert Haydon discovered when he poured 250 litres of plaster over his human model and nearly killed him. At the time, the casts were used for medical research and, consequently, in the nineteenth-century life-casting was considered inferior to sculpture in the same way that, more recently, photography was thought to be a lesser art than painting. Both were viewed as unacceptable shortcuts by the 'senior 1 arts. Their virtues of speed and unwavering realism also implied their limitations; they left little or no room for the imagination.

C For many, life-casting was an insult to the sculptor's creative genius. In an infamous lawsuit of 1834, a moulder whose mask of the dying French emperor Napoleon had been reproduced and sold without his permission was judged to have no rights to the image. In other words, he was specifically held not to be an artist. This judgement reflects the view of established members of the nineteenth-century art world such as Rodin, who commented that life-casting 'happens fast but it doesn't make Art'. Some even feared that 'if too much nature was allowed in, it would lead Art away from its proper course of the Ideal.

D The painter Gauguin, at the end of the nineteenth century, worried about future developments in photography. If ever the process went into colour, what painter would labour away at a likeness with a brush made from squirrel-tail? But painting has proved robust. Photography has changed it, of course, just as the novel had to reassess narrative after the arrival of the cinema. But the gap between the senior and junior arts was always narrower than the traditionalists implied. Painters have always used technical back-up such as studio assistants to do the boring bits, while apparently lesser crafts involve great skill, thought, preparation and, depending on how we define it, imagination.

E Time changes our view in another way, too. Each new movement implies a reassessment of what has gone before. What is done now alters what was done before? In some cases this is merely self-serving, with the new art using the old to justify itself. It seems to be saying, look at how all of that points to this! Aren't we clever to be the culmination of all that has gone before? But usually, it is a matter of re-alerting the sensibility, reminding us not to take things for granted. Take, for example, the cast of the hand of a giant from a circus, made by an anonymous artist around 1889, an item that would now sit happily in any commercial or public gallery. The most significant impact of this piece is on the eye, in the contradiction between unexpected size and verisimilitude. Next, the human element kicks in. you note that the nails are dirt-encrusted, unless this is the caster's decorative addition, and the fingertips extend far beyond them. Then you take in the element of choice, arrangement, art if you like, in the neat, pleated, buttoned sleeve-end that gives the item balance and variation of texture. This is just a moulded hand, yet the part stands utterly for the whole. It reminds us slyly, poignantly, of the full-size original

F But is it art? And, if so, why? These are old tediously repeated questions to which artists have often responded, 'It is an art because I am an artist and therefore what I do is art. However, what doesn't work for literature works much better for art works of art do float free of their creators' intentions. Over time the "reader" does become more powerful. Few of us can look at a medieval altarpiece as its painter intended. We believe too little and aesthetically know too much, so we recreate and find new fields of pleasure in the work. Equally, the lack of artistic intention of Paul Richer and other forgotten craftsmen who brushed oil onto flesh, who moulded, cast and decorated in the nineteenth century is now irrelevant. What counts is the surviving object and our response to it. The tests are simple: does it interest the eye, excite the brain, move the mind to reflection and involve the heart. It may, to use the old dichotomy, be beautiful but it is rarely true to any significant depth. One of the constant pleasures of art is its ability to come at us from an unexpected angle and stop us short in wonder.

Questions 14-18

Reading Passage 2 has six paragraphs, A-F.

Which paragraph contains the following information?

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

14. an example of a craftsman's unsuccessful claim to ownership of his work

15. an example of how trends in the art can change attitudes to an earlier work

16. the original function of a particular type of art

17. ways of assessing whether or not an object is an art

18. how artists deal with the less interesting aspects of their work

Questions 19-24

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

In boxes 19-24 on your answer sheet, write

YES	if the statement is true

NO	if the statement is false
NOT GIVEN	if the information is not given in the passage

19. Nineteenth-century sculptors admired the speed and realism of life-casting.

20. Rodin believed the quality of the life-casting would improve if a slower process were used.

21. The importance of painting has decreased with the development of colour photography.

22. Life-casting requires more skill than sculpture does.

23. New art encourages us to look at earlier work in a fresh way.

24. The intended meaning of a work of art can get lost over time.

Questions 25-26

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

Write the correct letter in boxes 25 and 26 on your answer sheet.

25. The most noticeable contrast in the cast of the giants hand is between the

A dirt and decoration

B size and realism

C choice and arrangement

D balance and texture

26. According to the writer, the importance of any artistic object lies in

A the artist's intentions

B the artist's beliefs

C the relevance it has to modem life

D the way we respond to it

Section 3

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

Honey bees in trouble

Can native pollinators fill the gap?

A Recently, ominous headlines have described a mysterious ailment, colony collapse disorder(CCD), that is wiping out the honeybees that pollinate many crops. Without honeybees, the story goes, fields will be sterile, economies will collapse, and food will be scarce.

B But what few accounts acknowledge is that what's at risk is not itself a natural state of affairs. For one thing, in the United States, where CCD was first reported and has had its greatest impacts, honeybees are not a native species. Pollination in modem agriculture isn't alchemy, it's industry. The total number of hives involved in the U.S. pollination industry has been somewhere between 2.5 million and 3 million in recent years. Meanwhile, American farmers began using large quantities of organophosphate insecticides, planted large-scale crop monocultures, and adopted "clean farming" practices that scrubbed native vegetation from field margins and roadsides. These practices killed many native bees outright—they're as vulnerable to insecticides as any agricultural pest—and made the agricultural landscape inhospitable to those that remained. Concern about these practices and their effects on pollinators isn't new—in her 1962 ecological alarm cry Silent Spring, Rachel Carson warned of a 'Fruitless Fall' that could result from the disappearance of insect pollinators.

C If that 'Fruitless Fall, has not—yet—occurred, it may be largely thanks to the honeybee, which farmers turned to as the ability of wild pollinators to service crops declined. The honeybee has been semi-domesticated since the time of the ancient Egyptians, but it wasn't just familiarity that determined this choice: the bees' biology is in many ways suited to the kind of agricultural system that was emerging. For example, honeybee hives can be closed up and moved out of the way when pesticides are applied to a field. The bees are generalist pollinators, so they can be used to pollinate many different crops. And although they are not the most efficient pollinator of every crop, honeybees have strength in numbers, with 20,000 to 100,000 bees living in a single hive. "Without a doubt, if there was one bee you wanted for agriculture, it would be the honeybee, "says Jim Cane, of the U.S. Department of Agriculture. The honeybee, in other words, has become a crucial cog in the modem system of industrial agriculture. That system delivers more food, and more kinds of it, to more places, more

cheaply than ever before. But that system is also vulnerable, because making a farm field into the photosynthetic equivalent of a factory floor, and pollination into a series of continent-long assembly lines, also leaches out some of the resilience characteristics of natural ecosystems.

D Breno Freitas, an agronomist, pointed out that in nature such a high degree of specialization usually is a very dangerous game: it works well while all the rest is in equilibrium, but runs quickly to extinction at the least disbalance. In effect, by developing an agricultural system that is heavily reliant on a single pollinator species, we humans have become riskily overspecialized. And when the human-honeybee relationship is disrupted, as it has been by colony collapse disorder, the vulnerability of that agricultural system begins to become clear.

E In fact, a few wild bees are already being successfully managed for crop pollination. “The problem is trying to provide native bees adequate numbers on a reliable basis in a fairly short number of years in order to service the crop， ,” Jim Cane says. “You’re talking millions of flowers per acre in a two-to three-week time frame, or less, for a lot of crops.” On the other hand, native bees can be much more efficient pollinators of certain crops than honeybees, so you don’t need as many to do the job. For example, about 750 blue orchard bees (Osmia lignaria) can pollinate a hectare of apples or almonds, a task that would require roughly 50,000 to 150,000 honeybees. There are bee tinkerers engaged in similar work in many comers of the world. In Brazil, Breno Freitas has found that Centris tarsata, the native pollinator of wild cashew, can survive in commercial cashew orchards if growers provide a source of floral oils, such as by interplanting their cashew trees with the Caribbean cherry.

F In certain places, native bees may already be doing more than they’re getting credit for. Ecologist Rachael Winfree recently led a team that looked at pollination of four summer crops (tomato, watermelon, peppers, and muskmelon) at 29 farms in the region of New Jersey and Pennsylvania. Winfree’s team identified 54 species of wild bees that visited these crops, and found that wild bees were the most important pollinators in the system: even though managed honeybees were present on many of the farms, wild bees were responsible for 62 per cent of flower visits in the study. In another study focusing specifically on watermelon, Winfree and her colleagues calculated that native bees alone could provide sufficient pollination at 90 per cent of the 23 farms studied. By contrast, honeybees alone could provide sufficient pollination at only 78 per cent of farms.

G “The region I work in is not typical of the way most food is produced， ” Winfree admits. In the Delaware Valley, most farms and farm fields are relatively small, each fanner typically grows a variety of crops, and farms are interspersed with suburbs and other types of land use which means there are opportunities for homeowners to get involved in bee conservation, too. The landscape is a bee-friendly patchwork that provides a variety of nesting habitat and floral resources distributed among different kinds of crops, weedy field margins, fallow fields, suburban neighbourhoods, and semi-natural habitat like old woodlots, all at a relatively small scale. In other words, ’’pollinator-friendly” farming practices

would not only aid pollination of agricultural crops, but also serve as a key element in the overall conservation strategy for wild pollinators, and often aid other wild species as well.

H Of course, not all farmers will be able to implement all of these practices. And researchers are suggesting a shift to a kind of polyglot agricultural system. For some small-scale farms, native bees may indeed be all that's needed. For larger operations, a suite of managed bees—with honeybees filling the generalist role and other, native bees pollinating specific crops—could be augmented by free pollination services from resurgent wild pollinators. In other words, they're saying, we still have an opportunity to replace a risky monoculture with something diverse, resilient, and robust.

Questions 27-30

Do the following statements agree with the claims of the writer in Reading Passage 3? In boxes 27-30 on your answer sheet, write

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

27. In the United States, farmers use honeybees on a large scale over the past few years.

28. Cleaning farming practices would be harmful to farmers'

29. The blue orchard bee is the most efficient pollinator among native bees for every crop.

30. It is beneficial to other local creatures to protect native bees.

Questions 31-35

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

Write your answers in boxes 31-35 on your answer sheet.

31. The example of the 'Fruitless Fair underlines the writer's point about

A needs for using pesticides.

B impacts of losing insect pollinators.

C vulnerabilities of native bees.

D benefits in building more pollination industries.

32. Why can honeybees adapt to the modem agricultural system?

A the honeybees can pollinate more crops efficiently

B The bees are semi-domesticated since ancient times.

C Honeybee hives can be protected away from pesticides.

D The ability of wild pollinators using to serve crops declines.

33. The writer mentions factories and assembly lines to illustrate

A one drawback of the industrialised agricultural system.

B a low cost in modem agriculture.

C the role of honeybees in pollination.

D what a high yield of industrial agriculture.

34. In the 6th paragraph, Wlnfree's experiment proves that

A honeybee can pollinate various crops.

B there are many types of wild bees as the pollinators.

C the wild bees can increase the yield to a higher percentage

D wild bees work more efficiently as a pollinator than honey bees in certain cases

35. What does the writer want to suggest in the last paragraph?

A the importance of honey bees in pollination

B adoption of different bees in various sizes of agricultural system

C the comparison between the intensive and the rarefied agricultural system

D the reason why farmers can rely on native pollinators

Questions 36-40

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

Write the correct letter, A-F, in boxes 36-40 on your answer sheet

36. The headline of colony collapse disorder states that

37. Viewpoints of Freitas manifest that

38. Examples of blue orchard bees have shown that

39. Centris tarsata is mentioned to exemplify that

40. One finding of the research in Delaware Valley is that

A. native pollinators can survive when a specific plant is supplied.

B. it would cause severe consequences both to commerce and agriculture.

C. honey bees cannot be bred.

D. some agricultural landscapes are favourable in supporting wild bees.

E. a large scale of honey bees are needed to pollinate.

F. an agricultural system is fragile when relying on a single pollinator

Answer Keys

1	FALSE	**2**	FALSE	**3**	**NOT GIVEN**
4	TRUE	**5**	TRUE	**6**	Flower
7	Prejudice	**8**	Reverse	**9**	Meat
10	crops	**11**	Soil	**12**	Cultivation
13	Investment				
14	C	**15**	E	**16**	B
17	F	**18**	D	**19**	NO
20	NO	**21**	NO	**22**	NOT GIVEN
23	NO	**24**	YES	**25**	B
26	D				

YES		**28**	NOT GIVEN	**29**	NO
YES		**31**	B	**32**	C

A	**34**	D	**35**	B
B	**37**	F	**38**	E
A	**40**	D		

TEST 10. Reading Passage 1

You should spend about 20 minutes on Questions 1-13, which are based on Reading Passage I on pages 2 and 3.

Bovids

A. The family of mammals called bovids belongs to the Artiodactyl class, which also includes giraffes. Bovids are highly diverse group consisting of 137 species, some of which are man's most important domestic animals.

B. Bovids are well represented in most parts of Eurasia and Southeast Asian islands, but they are by far the most numerous and diverse in the latter Some species of bovid are solitary, but others live in large groups with complex social structures. Although bovids have adapted to a wide range of habitats, from arctic tundra to deep tropical forest, the majority of species favour open grassland, scrub or desert. This diversity of habitat is also matched by great diversity in size and form: at one extreme is the royal antelope of West Africa, which stands a mere 25 cm at the shoulder; at the other, the massively built bisons of North America and Europe, growing to a shoulder height of 2.2m.

C. Despite differences in size and appearance, bovids are united by the possession of certain common features. All species are ruminants, which means that they retain undigested food in their stomachs, and regurgitate it as necessary. Bovids are almost exclusively

herbivorous: plant-eating "incisors: front teeth

D. herbivorous. Typically their teeth are highly modified for browsing and grazing: grass or foliage is cropped with the upper lip and lower incisors** (the upper incisors are usually absent), and then ground down by the cheek teeth. As well as having cloven, or split, hooves, the males of ail bovid species and the females of most carry horns. Bovid horns have bony cores covered in a sheath of horny material that is constantly renewed from within; they are unbranched and never shed. They vary in shape and size: the relatively simple horns of a large Indian buffalo may measure around 4 m from tip to tip along the outer curve, while the various gazelles have horns with a variety of elegant curves.

E. Five groups, or sub-families, may be distinguished: Bovinae, Antelope, Caprinae, Cephalophinae and Antilocapridae. The sub-family Bovinae comprises most of the larger bovids, including the African bongo, and nilgae, eland, bison and cattle. Unlike most other bovids they are all non-territorial. The ancestors of the various species of domestic cattle banteng, gaur, yak and water buffalo are generally rare and endangered in the wild, while the auroch (the ancestor of the domestic cattle of Europe) is extin

F. The term 'antelope 1 is not a very precise zoological name _ it is used to loosely describe a number of bovids that have followed different lines of development. Antelopes are typically long-legged, fast-running species, often with long horns that may be laid along the back when the animal is in full flight. There are two main sub-groups antelope: Hippotraginae, which includes the oryx and the addax, and Antilopinae, which generally contains slighter and more graceful animals such as gazelle and the springbok. Antelopes are mainly grassland species, but many have adapted to flooded grasslands: pukus, waterbucks and lechwes are all good at swimming, usually feeding in deep water, while the sitatunga has long, splayed hooves that enable it to walk freely on swampy ground.

G. The sub-family Caprinae includes the sheep and the goat, together with various relatives such as the goral and the tahr. Most are woolly or have long hair. Several species, such as wild goats, chamois and ibex, are agile cliff — and mountain-dwellers. Tolerance of extreme conditions is most marked in this group: Barbary and bighorn sheep have adapted to arid deserts, while Rocky Mountain sheep survive high up in mountains and musk oxen in arctic tundra.

H. The duiker of Africa belongs to the Cephalophinae sub-family. It is generally small and solitary, often living in thick forest. Although mainly feeding on grass and leaves, some duikers – unlike most other bovids -are believed to eat insects and feed on dead animal carcasses, and even to kill small animals.

I. the pronghorn is the sole survivor of a New World sub-family of herbivorous ruminants, the Antilocapridae in North America. It is similar in appearance and habits to the Old World antelope. Although greatly reduced in numbers since the arrival of Europeans, and the subsequent enclosure of grasslands, the pronghorn is still found in considerable numbers throughout North America, from Washington State to Mexico. When alarmed by the approach of wolves or other predators, hairs on the pronghorn's rump stand erect, so showing and emphasising the white patch there. At this signal, the whole herd gallops off at speed of over 60 km per hour.

Questions 1-3

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

Write the correct letter in boxes 1 -3 on your answer sheet.

1. In which region is the biggest range of bovids to be found?

A Africa

B Eurasia

C North America

D South-east Asia

2. Most bovids have a preference for living in

A isolation

B small groups

C tropical forest

D wide open spaces

3. Which of the following features do all bovids have in common?

A Their homs are shot

B They have upper incisors

C They store food in the body

D Their hooves are undivided

Questions 4-8

Look at the following characteristics (Question 4-8) and the list of sub-families below. Match each characteristic with the correct sub-family, A, B, C or D.

Write the correct letter, A, B, C or D, in boxes 4-8 on your answer sheet.

NB You may use any letter more than once

4. can endure very harsh environments

5. includes the ox and the cow

6. may supplement its diet with meat

7. can usually move at speed

8. does not defend a particular area of land

List of sub-families
A Antelope
B Bovinae
C Caprinae
D Cephalophinae

Question 9-13

Answer the questions below.

Choose NO MORE THAN THREE WORDS from the passage for each answer. Write your answers in boxes 9-13 on your answer sheet

9. What is the smallest species of Bovid called?

10. Which species of Boviae has now died out?

11. What facilitates the movement of the sitatunga over wetland?

12. What sort of terrain do barbary sheep live in?

13. What is the only living member of the Antilocapridae sub-family?

Reading Passage 2

Twin study: **Two of a kind**

A. THE scientific study of twins goes back to the late 19th century, when Francis Galton, an early geneticist, realized that they came in two varieties: identical twins born from one egg and non-identical twins that had come from two. That insight turned out to be key, although it was not until 1924 that it was used to formulate what is known as the twin rule of pathology, and twin studies really got going.

B. The twin rule of pathology states that any heritable disease will be more concordant (that is, more likely to be jointly present or absent) in identical twins than in non-identical twins—and, in turn, will be more concordant in non-identical twins than in non-siblings. Early work, for example, showed that the statistical correlation of skin-mole counts between identical twins was 0.4, while non-identical twins had a correlation of only 0.2. (A score of 1.0 implies perfect correlation, while a score of zero implies no correlation.) This result suggests that moles are heritable, but it also implies that there is an environmental component to the development of moles, otherwise the correlation in identical twins would be close to 1.0.

C. Twin research has shown that whether or not someone takes up smoking is determined mainly by environmental factors, but once he does so, how much he smokes is largely down to his genes. And while a person's religion is clearly a cultural attribute, there is a strong genetic component to religious fundamentalism. Twin studies are also unraveling the heritability of various aspects of human personality. Traits from neuroticism and anxiety to thrill- and novelty-seeking all have large genetic components. Parenting matters, but it does not determine personality in the way that some had thought.

D. More importantly, perhaps, twin studies are helping the understanding of diseases such as cancer, asthma, osteoporosis, arthritis and immune disorders. And twins can be used, within ethical limits, for medical experiments. A study that administered vitamin C to one twin and a placebo to the other found that it had no effect on the common cold. The lesson from all today's twin studies is that most human traits are at least partially influenced by genes. However, for the most part, the age-old dichotomy between nature and nurture is not very useful. Many genetic programs are open to input from the environment, and genes are frequently switched on or off by environmental signals. It is also possible that genes themselves influence their environment. Some humans have an innate preference for participation in sports. Others are drawn to novelty. Might people also be drawn to certain kinds of friends and types of experience? In this way, a person's genes might shape the environment they act in as much as the environment shapes the actions of the genes.

E. In the past, such research has been controversial. Josef Mengele, a Nazi doctor working at the Auschwitz extermination camp during the Second World War, was fascinated by twins. He sought them out among arrivals at the camp and preserved them from the gas-chambers for a series of brutal experiments. After the war, Cyril Burt, a British psychologist who worked on the heredity of intelligence, tainted twin research with results that appear, in retrospect, to have been rather too good. Some of his data on identical twins who had been reared apart were probably faked. In any case, the prevailing ideology in the social sciences after the war was Marxist, and disliked suggestions that differences in human potential might have underlying genetic causes. Twin studies were thus viewed with suspicion.

F. the ideological pendulum has swung back; however, as the human genome project and its aftermath have turned genes from abstract concepts to real pieces of DNA. The role of genes in sensitive areas such as intelligence is acknowledged by all but a few die-hards. The interesting questions now concern how nature and nurture interact to produce particular bits of biology, rather than which of the two is more important. Twin studies, which are a good way to ask these questions, are back in fashion, and many twins are enthusiastic participants in this research.

G. Research at the Twinsburg festival began in a small way, with a single stand in 1979. Gradually, news spread, and more scientists began turning up. This year, half a dozen groups of researchers were lodged in a specially pitched research tent. In one comer of this tent, Paul Breslin, who works at the Monell Institute in Philadelphia, watched over several tables where twins sat sipping clear liquids from cups and making notes. It was the team's third year at Twinsburg. Dr Breslin and his colleagues want to find out how genes influence human perception, particularly the senses of smell and taste and those (warmth, cold, pain, tingle, itch and so on) that result from stimulation of the skin. Perception is an example of something that is probably influenced by both genes and experience. Even before birth, people are exposed to flavours such as chocolate, garlic, mint and vanilla that pass intact into the bloodstream, and thus to the fetus. Though it is not yet clear whether such pre-natal exposure shapes taste-perception, there is evidence that it shapes preferences for foods encountered later in life.

H. However, there are clearly genetic influences at work, as well-for example in the ability to taste quinine. Some people experience this as intensely bitter, even when it is present at very low levels. Others, whose genetic endowment is different, are less bothered by it. Twin studies make this extremely clear. Within a pair of identical twins, either both, or neither, will find quinine hard to swallow. Non-identical twins will agree less frequently.

I. On the other side of the tent Dennis Drayna, from the National Institute on Deafness and Other Communication Disorders, in Maryland, was studying hearing. He wants to know what happens to sounds after they reach the ear. It is not clear, he says, whether sound is processed into sensation mostly in the ear or in the brain. Dr Drayna has already been involved in a twin study which revealed that the perception of musical pitch is highly heritable. At Twinsburg, he is playing different words, or parts of words, into the left and right ears of his twinned volunteers. The composite of the two sounds that an individual reports hearing depends on how he processes this diverse information and that, Dr Drayna believes, may well be influenced by genetics.

J. Elsewhere in the marquee, Peter Miraldi, of Kent State University in Ohio, was trying to find out whether genes affect an individual's motivation to communicate with others. A number of twin studies have shown that personality and sociability are heritable, so he thinks this is fertile ground. And next to Mr. Miraldi was a team of dermatologists from Case Western Reserve University in Cleveland. They

are looking at the development of skin diseases and male-pattern baldness. The goal of the latter piece of research is to find the genes responsible for making men's hair fall out.

K. The busiest part of the tent, however, was the queue for forensic-science research into fingerprints. The origins of this study are shrouded in mystery. For many months, the festival/'s organisers have been convinced that the Secret Service – the American government agency responsible for, among other things, the safety of the president – is behind it. When The Economist contacted the Secret Service for more information, we were referred to Steve Nash, who is chairman of the International Association for Identification (IAI), and is also a detective in the scientific investigations section of the Marin County Sheriff's Office in California. The IAI, based in Minnesota, is an organisation of forensic scientists from around the world. Among other things, it publishes the Journal of Forensic Identification.

Questions 14-18

The reading Passage has seven paragraphs A-K.

Which paragraph contains the following information? Write the correct letter A-K, in boxes 14-18 on your answer sheet.

NB You may use any letter more than once.

14. Mentioned research conducted in Ohio

15. Medical contribution to the researches for twins.

16. Research situation under life threatening conditions

17. Data of similarities of identical twins

18. Reasons that make one study unconvincing

Questions 19-20

Summary

Complete the following summary of the paragraphs of Reading Passage 2 , using no more than two words from the Reading Passage for each answer. Write your answers in boxes 19-20 on your answer sheet.

The first one that conducted research on twins is

called …….. 19……. He separated twins into two categories: non identical and identical twins. The twin research was used in medical application in as early as the year of…… 20……

Questions 21-23

Choose the correct letters in following options:

Write your answers in boxes 21-23 on your answer sheet.

Please choose THREE research fields that had been carried out in Ohio, Maryland and Twinsburgh?

A Sense

B Cancer

C Be allergic to Vitamin D

D Mole heredity

E Sound

F Boldness of men

Questions 24-26

Choose the correct letters in following options:

Write your answers in boxes 24-26 on your answer sheet.

Please choose **THREE** results that had been verified in this passage.

A Non identical twins come from different eggs.

B Genetic relation between identical twins is closer than non-identical ones.

C Vitamin C has evident effect on a cold.

D Genetic influence to smoking is superior to environment's

E If a pregnant woman eats too much sweet would lead to skin disease.

F Hair loss has been found to be connected with skin problem.

Reading Passage 3

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

The significant role of mother tongue language in education

A. One consequence of population mobility is an increasing diversity within schools. To illustrate, in the city of Toronto in Canada, 58% of kindergarten pupils come from homes where English is not language of communication. Schools in Europe and North America have experienced this diversity for years, but educational policies and practices vary widely between countries and even within countries. Some political parties and groups search for ways to solve the problem of diverse communities and their integration in schools and society. They see few positive consequences for the host society and worry that diversity threaten the identity of the host society .Consequently, they promote unfortunate educational policies that will make the "problem" disappear. If students retain their culture and language, they are viewed as less capable of identifying with the mainstream culture and learning the mainstream language of the society.

B. The challenge for educators and policy-makers is to shape the evolution of national identity in such a way that the rights of all citizens (including school children) are respected, and the cultural, linguistic, and economic resources of the nation are maximized. To waste the resources of the nation by discouraging children from developing their mother tongues is quite simply unintelligent from the point of view of national self-interest. A first step in Providing an appropriate education for culturally and linguistically diverse children is to examine what the existing research says about the role of children's mother tongues in their educational development.

C. In fact, the research is very clear. When children continue to develop their abilities in two or more languages throughout their primary school, they gain a deeper understanding of language and how to use it effectively. They have more practice in processing language, especially when they develop literacy in both. More than 150 research studies conducted during the past 35 years strongly support what Goethe, the famous eighteenth-century German philosopher, once said : that the person who knows only one language does not truly know that language. Research suggests that bilingual children may also develop more flexibility in their thinking as a result of processing information through two different languages.

D. The level of development of children's mother tongue is a strong predictor of their second language development. Children who come to school with a solid foundation in their mother tongue develop

stronger literacy abilities in the school language. When parents and other caregivers (e.g. grandparents) are able to spend time with their children and tell stories or discuss issues with them in a way that develops their mother tongue, children come to school well-prepared to learn the school language and succeed educationally. Children's knowledge and skills transfer across languages from the mother tongue to the school language. Transfer across languages can be two-way: both languages nurture each other when the educational environment permits children access to both languages.

E. Some educators and parents are suspicious of mother tongue-based teaching programs because they worry that they take time away from the majority language. For example, in a bilingual program where 50% of the time is spent teaching through children's home language and 50% through the majority language, surely children's won't progress as far in the letter? One of the most strongly established findings of educational research, however, is that well-implemented bilingual programs can promote literacy and subject- matter knowledge in a minority language without any negative effects on children's development in the majority language. Within Europe, the Foyer program in Belgium, which develops children's speaking and literacy abilities in three languages (their mother tongue, Dutch and French), most clearly illustrates the benefits of bilingual and trilingual education (see Cummins, 2000).

F. It is easy to understand how this happens. When children are learning through a minority language, they are learning concepts and intellectual skills too. Pupils who know how to tell the time in their mother tongue understand the concept of telling time. In order to tell time in the majority language they do not need to re-learn the concept. Similarly, at more advanced stages, there is transfer across languages in other skills such as knowing how to distinguish the main idea from the supporting details of a written passage or story, and distinguishing fact from opinion, Studies of secondary school pupils are providing interesting findings in this area, and it would be worth extending this research.

G. Many people marvel at how quickly bilingual children seem to "pick up" conversational skills in the majority language at school (although it takes much longer for them to catch up to native speakers in academic language skills). However, educators are often much less aware of how quickly children can lose their ability to use their mother tongue, even in the home context. The extent and rapidity of language loss will vary according to the concentration of families from a particular linguistic group in the neighborhood. Where the mother tongue is used extensively in the community, then language loss among young children will be less. However, where language communities are not concentrated in particular neighborhoods, children can lose their ability to communicate in their mother tongue within 2-3 years of starting school. They may retain receptive skills in the language but they will use the majority language in speaking with their peers and siblings and in responding to their parents. By the time children become adolescents, the linguistic division between parents and children has become an emotional chasm. Pupils frequently become alienated from the cultures of both home and school with predictable results.

Questions 27-30

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

Write the correct letter in boxes 27-30 on your answer sheet.

27. What point the writer making in the second paragraph?

A Some present studies on children's mother tongues are misleading

B A culturally rich education programme benefits some children more than others.

C bilingual children can make a valuable contribution to the wealth of a country

The law on mother tongue use at school should be strengthened.

28. Why does the writer refer to something that Goethe said?

A to lend weight his argument

B to contradict some research

C to introduce a new concept

D to update current thinking

29. The writer believes that when young children have a firm grasp of their mother tongue

A they can teach older family members what they learn at school

B they go on to do much better throughout their time at school

C they can read stories about their cultural background

D they develop stronger relationships with their family than with their peers.

30. Why are some people suspicious about mother tongue-based teaching programmes?

A They worry that children will be slow to learn to read in either language

B They think that children will confuse words in the two languages.

C They believe that the programmes will make children less interested in their lessons

D They fear that the programmes will use up valuable time in the school day.

Questions 31-35

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 31-35 on your answer sheet.

Bilingual children

It was often recorded that Bilingual Children acquire the 31 ……. to converse in the majority language remarkable quickly. The fact that the mother tongue can disappear at a similar 32……. is less well understood. This phenomenon depends to a certain extent, on the proposition of people with the same linguistic background that have settled in a particular 33 ……..; If this is limited, children are likely to lose the active use of their mother tongue. And thus no longer employ it even with 34……. although they may still understand it. It follows that teenager children in these circumstances experience a sense of 35……. in relation to all aspects of their lives.

A	Teachers	**B**	school	**C**	dislocation
D	Rate	**E**	time	**F**	family
G	communication	**H**	type	**I**	ability
J	Area				

Questions 36-40

Do the following statement agree with the views of the writer in Reading passage 3? In boxes 36-40 on your answer sheet, write

YES if the statement agrees with the views of the writer

NO if the statement contradicts with the views of the writer

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

36. Less than half the children who attend kindergarten in Toronto have English as their Mother tongue.

37. Research proves that learning the host country language at school can have an adverse effect on a child's mother tongue.

38. the foyer Program is to be accepted by the French education system.

39. Bilingual children are taught to tell the time earlier than monolingual children.

40. Bilingual children can eventually apply reading comprehension strategies acquired in one language when reading in the other.

Answers

Reading Passage 1

1. D

2. D

3. C

4. C

5. D

6. B

7. A

8. B

9. Royal Antelope

10. The auroch

11. Long, splayed hooves

12. Arid deserts

13. Pronghorn

Reading Passage 2

14. J

15. D

16. E

17. B

18. A

19. Francis Galton

20. 1924

21. A

22. E

23. F

24. A

25. B

26. D

Reading Passage 3

27. C

28. A

29. B

30. D

31. I

32. D

33. J

34. F

35. C

36. YES

37. NOT GIVEN

38. NO

39. NOT GIVEN

40. YES

TEST 11. SECTION 1

Corporate Social Responsibility – a new concept of "market"

Maybe Ben & Jerry's and The Body Shop set themselves up for a fall by appearing to have a monopoly on making an honest buck. But their struggles are a lesson on how little we know about the minefield of "ethical" marketing.

The Body Shop, along with the American ice cream maker Ben and Jerry's, was hailed as a new breed of green, or environmentally conscious, business.

Ben and Jerry's

A Ben & Jerry's offers a very sweet benefits package to employees. First, every one of the 700+ Ben & Jerry's workers is entitled to three free pints of ice cream, sorbet or frozen yoghurt per day worked. (Some workers use allotments of their free treats to barter for other goods and services in town such as haircuts.) Beyond the freebies, personnel receive a 50% discount on the company's frozen goodies, a 40% discount on merchandise and a further 30% break on non-Ben & Jerry's foods at company outlets.

B Workers are further entitled to paid family leave and may take advantage of the Employee Stock Purchase Program to purchase company stock (after six months with the organization) at a 15% discount. Beginning in 1998, 316 stock options are awarded to each worker (excluding directors and officers) and stock is also assigned to each employee's 40IK plan at the end of the calendar year. These contributions are intended to achieve the company's goal of linked prosperity, i.e. to assure that future prosperity is widely shared by all employees.

The Body Shop

C History of The Body Shop Anita Roddick started The Body Shop with a mere £4,000 and a dream. With over 1,900 stores in 50 countries. The Body Shop was founded in 1976 in Brighton, England. From her original shop, which offered a line of 25 different lotions, creams, and oils, Roddick became the first successful marketer of body care products that combined natural ingredients with ecologically-benign manufacturing processes. Her company's refusal to test products on animals, along with an insistence on nonexploitative labour practices among suppliers around the world, appealed especially to upscale, mainly middle-class women, who were and have continued to be the company's primary market. As sales boomed, even the conservative financial markets approved of The Body Shop, s impressive profit picture, and a public stock offering in 1984 was successful. An expansion campaign followed. In 1988 the company entered the U.S. market by opening a store in New York City, and by

1997 the company boasted 1,500 stores, including franchises, in 47 countries. Anti-marketing seemed to be smart marketing, at least as far as The Body Shop was concerned.

D Part of the secret of The Body Shop's early success was that it had created a market niche for itself. The company was not directly competing against the traditional cosmetics companies, which marketed their products as fashion accessories designed to cover up flaws and make women look more like the fashion models who appeared in their lavish ads. Instead, The Body Shop offered a line of products that promised benefits other than appearance healthier skin, for instance rather than simply a better-looking complexion. The company is known for pioneering the natural-ingredient cosmetic market and establishing social responsibility as an integral part of company operations. The Body Shop is known for its ethical stances, such as its monetary donations to the communities in which it operates, and its business partnerships with developing countries. In 1988 Roddick opened her first store in the United States, and by that time- through various social initiatives such as the [66] Stop the Bum" campaign to save the Brazilian rainforest (the source of many of the company's natural ingredients, (and strong support of employee volunteerism -The Body Shop name had become synonymous with social activism and global preservation worldwide. The company had also become immensely profitable.

E By the mid-1990s， however， The Body Shop faced growing competition, forcing it to begin its first major advertising initiative, the most prominent part of which was the "Ruby" campaign. The campaign was personified by Ruby, a doll with Rubenesque proportions who was perched on an antique couch and who looked quite pleased with herself and her plump frame. Randy Williamson, a spokesperson for The Body Shop, said: "Ruby is the fruit of our long-established practice of challenging the way the cosmetic industry talks to women. The Ruby campaign is designed to promote the idea that The Body Shop creates products designed to enhance features, moisturize, cleanse, and polish, not to correct 'flaws.[5] The Body Shop philosophy is that there is real beauty in everyone. We are not claiming that our products perform miracles."

F The Competition the Body Shop lost market share in the late 1990s to product-savvy competitors that offered similar cosmetics at lower prices. The main competitors are H20, Sephora, Bath and Body Work, and Origins. Research Results Research showed that women appreciate The Body Shop for their ethical standards. They are pleased by companies with green actions, not promises. The research proved that The Body Shop has been put on the back burner in many people's minds: overcrowded by newer, fresher Brands. Companies like the Body Shop continually hype their products through advertising and marketing, often creating a demand for something where a real need for it does not exist. The message pushed is that the route to happiness is through buying more and more of their products. Under such consumerism, the increasing domination of multinationals and their standardised products is leading to global cultural conformity. Other downfall factors also include misleading the public, low pay and against unions, exploiting indigenous people; Also the mass production, packaging

and transportation of huge quantities of goods are using up the world's resources faster than they can be renewed and filling the land, sea and air with dangerous pollution and waste

G The Problem The Body Shop has used safe and timid advertising over the last decade, decreasing market share and brand value. With the rise of new, more natural and environmentally friendly competitors, The Body Shop can no longer stand behind being the greenest or most natural. The Solution The Body Shop is the originator of ethical beauty with our actions speaking louder than our words. This is the new direction of The Body Shop. We will be a part of different acts of kindness in big cities. We will eliminate unwanted graffiti, purify city air, and allow the customer to be a part of something good.

Questions 1-4

The reading Passage has seven paragraphs A-H.

Which paragraph contains the following information?

Write the correct letter A-G, in boxes 1-4 your answer sheet.

1. An action is taken to Establishing social responsibility in the conservation project

2. A description of the conventional way the ads applied to talk to its customers

3. A history of a humble origin and expansion

4. Management practices are intended to line up the company's goal with participants, prosperity

Questions 5-7

Choose the three correct letter, A- F.

Write your answers in boxes 5-7 on your answer sheet.

What is true about Ben & Jerry's company management

A. There was little difference between the highest salary and the lowest
B. They were advertising their product with powerful internal marketing.
C. They offer the employee complimentary product
D. Employees were encouraged to give services back to the community
E. the products are designed for workers to barter for other goods and services
F. offered a package of benefits for disabled employees

Questions 8-10

Choose the three correct letter, A- F.

Write your answers in boxes 8-10 on your answer sheet.

What are the factors once contributed to the success of the BODY SHOP?

A. Pioneering the natural-ingredient cosmetics market
B. Appealed to primary market mainly of the rich women
C. Focused on their lavish ads campaign
D. The company avoided producing traditional cosmetics products
E. Its moral concept that refuses to use animals- tested ingredients
F. Its monetary donations to the communities and in developing countries

Questions 11-13

Choose the three correct letter, A- F.

Write your answers in boxes 11-13 on your answer sheet.

What are the factors leading to the later failure for BODY SHOP company?

A. Its philosophy that there is real beauty in everyone is faulty
B. Fails to fulfil promises while acted like misleading the public
C. Faced growing competition
D. Its creating demand for something that the customers do not actually need E its newer, fresher Brands are not successful in the Market F fail to offer cosmetics at lower prices than competitors

SECTION 2

Photovoltaics on the rooftop: A natural choice for powering the family home

A In the past, urban homeowners have not always had much choice in the way electricity is supplied to their homes. Now, however, there is a choice, and a rapidly increasing number of households worldwide are choosing the solar energy option. Solar energy, the conversion of sunlight into energy, is made possible through the use of 'photovoltaics', which are simple appliances that fit onto the roof of a house.

B The photovoltaics-powered home remains connected to the power lines, but no storage is required on-site, only a box of electronics (the inverter) to the interface between the photovoltaics and the grid network. Figure 1 illustrates the system. During the day, when the home may not be using much electricity, excess power from the solar array is fed back to the grid, to factories and offices that need daytime power. At night, power flows the opposite way. The grid network effectively provides storage. If the electricity demand is well matched to when the sun shines, solar energy is especially valuable. This occurs in places like California in the US and Japan, where air-conditioning loads for offices and factories are large but heating loads for homes are small.

C The first systematic exploration of the use of photovoltaics on homes began in the US during the 1970s. A well-conceived program started with the sitting of a number of residential experiment stations, at selected locations around the country, representing different climatic zones. These stations contained a number of 'dummy' houses, each with different solar-energy system design. Homes within the communities close to these stations were monitored to see how well their energy use matched the energy generated by the stations' dummy roofs. A change in US government priorities in the early 1980s halted this program.

D With the US effort dropping away, the Japanese Sunshine Project came to the fore. A large residential test station was installed on Rokko Island beginning in 1986. This installation consists of 18 'dummy[5] homes. Each equipped with its own 2-5 kilowatt photovoltaic system (about 20 – 50 square meters for each system). Some of these simulated homes have their own electrical appliances inside, such as TV sets, refrigerators and air conditioning units, which switch on and off under computer control providing a lavish lifestyle for the non-existent occupants. For the other systems, electronics simulate these household loads. This test station has allowed the technical issues involved in using photovoltaics within the electricity network to be explored systematically, under well-controlled test conditions. With no insurmountable problems identified, the Japanese have used the experience gained from this station to begin their own massive residential photovoltaics campaign.

E Meanwhile, Germany began a very important "1,000 roof program, in 1990, aimed at installing photovoltaics on the roofs of 1,000 private homes. Large federal and regional government subsidies were involved, accounting in most cases for 70% of the total system costs. The program proved immensely popular, forcing its extension to over 2,000 homes scattered across Germany. The success of this program stimulated other European countries to launch a similar program.

F Japan's 'one million roof program' was prompted by the experience gained in the Rokko Island test site and the success of the German 1,000 roof program. The initially quoted aims of the Japanese New Energy Development Organization were to have 70,000 homes equipped with the photovoltaics by the year 2000, on the way to 1 million by 2010. The program made a modest start in 1994 when 539

systems were installed with a government subsidy of 50 per cent. Under this program, entire new suburban developments are using photovoltaics.

G This is good news, not only for the photovoltaic industry but for everyone concerned with the environment. The use of fossil fuels to generate electricity is not only costly in financial terms, but also in terms of environmental damage. Gases produced by the burning of fossil fuels in the production of electricity are a major contributor to the greenhouse effect. To deal with this problem, many governments are now proposing stringent targets on the amount of greenhouse gas emissions permitted. These targets mean that all sources of greenhouse gas emissions including residential electricity use will receive closer attention in the future.

H It is likely that in the future, governments will develop building codes that attempt to constrain the energy demands of new housing. For example, the use of photovoltaics or the equivalent may be stipulated to lessen demands on the grid network and hence reduce fossil fuel emissions. Approvals for building renovations may also be conditional upon taking such energy-saving measures. If this were to happen, everyone would benefit. Although there is an initial cost in attaching the system to the rooftop, the householder's outlay is soon compensated with the savings on energy bills. Also, everyone living on the planet stands to gain from the more benign environmental impact.

Questions 14-19

Reading passage 2 has nine paragraphs(listed A-H)

Which paragraph contains the following information?

Write the appropriate letters A-H in boxes 14-19 on your answer sheet.

NB you may use any letter more than once

14. examples of countries where electricity use is greater during the day than at night

15. a detailed description of an experiment that led to photovoltaics being promoted throughout the country

16. the negative effects of using conventional means of generating electricity

17. an explanation of the photovoltaic system

18. the long-term benefits of using photovoltaics

19. a reference to wealthy countries being prepared to help less wealthy countries have access to photovoltaics

Questions 20-26

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

In boxes 20-26 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

20. Photovoltaics are used to store electricity.

21. Since the 1970s， the US government has provided continuous support for the use of photovoltaics on homes.

22. The solar-powered houses on Rokko Island are uninhabited.

23. In 1994, the Japanese government was providing half the money required for installing photovoltaics on homes.

24. Germany, Italy, the Netherlands and Australia all have strict goals concerning greenhouse gas emissions.

25. Residential electricity use is the major source of greenhouse gas emission.

26. Energy-saving measures must now be included in the design of all new homes and improvements to buildings.

SECTION 3

Assessing the risk

A As a title for a supposedly unprejudiced debate on scientific progress, "Panic attack: interrogating our obsession with risk" did not bode well. Held last week at the Royal Institution in London, the event brought together scientists from across the world to ask why society is so obsessed risk and to call for a "more rational" approach, seem to be organising society around the grandmotherly maxim of better safe than sorry', " exclaimed Spiked, the online publication that organised the event. "What are the consequences of this overbearing concern with risks?"

B The debate was preceded by a survey of 40 scientists who were invited to describe how awful our lives would be if the "precautionary principle" had been allowed to prevail in the past Their response was: no heart surgery or antibiotics, and hardly any drugs at all; no aeroplanes, bicycles or high-voltage power grids; no pasteurization, pesticides or biotechnology; no quantum mechanics; no wheel; no "discovery" of America. In short, their message was: no risk, no gain.

C They have missed the point. The precautionary principle is a subtle idea. It has various forms, but all of them generally include some notion of cost-effectiveness. Thus the point is not simply to ban things that are not known to be safe. Rather, it says: "Of course you can make no progress without risk. But if there is no obvious gain from taking the risk, then don't take it."

D Clearly, all the technologies listed by the 40 well-chosen savants were innately risky at their inception, as all technologies are. But all of them would have received the green light under the precautionary principle because they all had the potential to offer tremendous benefits _ the solutions to very big problems – if only the snags could be overcome.

E If the precautionary principle had been in place, the scientists tell us, we would not have antibiotics. But of course, we would – if the version of the principle that sensible people now understand had been applied. When penicillin was discovered in the 1920s, infective bacteria were laying waste to the world. Children died from diphtheria and whooping cough, every open-drain brought the threat of typhoid, and any wound could lead to septicemia and even gangrene.

F Penicillin was turned into a practical drug during the Second World War when the many pestilences that result from war threatened to kill more people than the bombs. Of course, antibiotics were a priority. Of course, the risks, such as they could be perceived, were worth taking.

G And so with the other items on the scientists, list: electric light bulbs, blood transfusions, CAT scans, knives, the measles vaccine —the precautionary principle would have prevented all of them, they tell us. But this is just plain wrong. If the precautionary principle had been applied properly, all these creations would have passed muster, because all offered incomparable advantages compared to the risks perceived at the time.

H Another issue is at stake here. Statistics are not the only concept people use when weighing up risk. Human beings, subtle and evolved creatures that we are, do not survive to three-score years and ten simply by thinking like pocket calculators. A crucial issue is the consumer's choice. In deciding whether to pursue the development of new technology, the consumer's right to choose should be considered alongside considerations of risk and benefit Clearly, skiing is more dangerous than genetically modified tomatoes. But people who ski choose to do so; they do not have skiing thrust upon them by portentous experts of the kind who now feel they have the right to reconstruct our crops. Even with skiing, there is the matter of cost-effectiveness to consider: skiing, I am told, is exhilarating. Where is the exhilaration in GM soya?

I Indeed, in contrast to all the other items on Spiked's list, GM crops stand out as an example of a technology whose benefits are far from clear. Some of the risks can at least be defined. But in the present economic climate, the benefits that might accrue from them seem dubious. Promoters of GM crops believe that the future population of the world cannot be fed without them. That is untrue. The crops that really matter are wheat and rice, and there is no GM research in the pipeline that will seriously affect the yield of either. GM is used to make production cheaper and hence more profitable, which is an extremely questionable ambition.

J If it had been in place in the past it might, for example, have prevented insouciant miners from polluting major rivers with mercury. We have come to a sorry pass when scientists, who should above all be dispassionate scholars, feel they should misrepresent such a principle for commercial and political propaganda. People at large continue to mistrust science and the high technologies it produces partly because they doubt the wisdom of scientists. On such evidence as this, these doubts are fully justified

Questions 27-32

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

TRUE	if the statement is true
FALSE	if the statement is false
NOT GIVEN	if the information is not given in the passage

27. The title of the debate is not unbiased.

28. All the scientists invited to the debate were from the field of medicine.

29. The message those scientists who conducted the survey were sending was people shouldn't take risks.

30. All the 40 listed technologies are riskier than other technologies.

31. It was worth taking the risks to invent antibiotics.

32. All the other inventions on the list were also judged by the precautionary principle.

Questions 33-39

Summary

Complete the following summary of the paragraphs of Reading Passage， using no more than three words from the Reading Passage for each answer. Write your answers in boxes 33-39 on your answer sheet.

When applying the precautionary principle to decide whether to invent a new technology, people should also consideration of the……. 33…….. ， along with the usual consideration of…… 34…….. For example, though risky and dangerous enough, people still enjoy …… 35…….. for the excitement it provides. On the other hand, experts believe that future population desperately needs…… 36…… in spite of their undefined risks. However, the researches conducted so far have not been directed towards increasing the yield of…… 37…….. ， but to reduce the cost of ……. 38…… and to bring more profit out of it. In the end, such selfish use of the precautionary principle for business and political gain has often led people to …….. 39…….. science for they believe scientists are not to be trusted.

Questions 40

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

Write your answers in boxes 40 on your answer sheet.

40 What is the main theme of the passage?

A people have the right to doubt science and technologies

B the precautionary principle could have prevented the development of science and technology

C there are not enough people who truly understand the precautionary principle

D the precautionary principle bids us take risks at all costs.

ANSWER KEYS

1	E	**2**	F	**3**	D
4	B	**5**	C	**6**	E
7	F	**8**	A	**3**	E
10	F	**11**	B	**12**	C
13	D				
14	B	**15**	D	**16**	H
17	B	**18**	I	**19**	E
20	FALSE	**21**	FALSE	**22**	TRUE
23	TRUE	**24**	NOT GIVEN	**25**	NOT GIVEN
26	FALSE				
27	TRUE	**28**	NOT GIVEN	**29**	FALSE
30	NOT GIVEN	**31**	TRUE	**32**	NOT GIVEN

33	Consumer's right(to choose) / consumer's choice	**34**	Risk and benefit	**35**	Skiing
36	GM crops	**37**	Wheat and rice	**38**	production
39	mistrust	**40**	A		

TEST 12. Reading Passage 1

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

Communicating In Colour

A. There are more than 160 known species of chameleons. The main distribution is in Africa and Madagascar, and other tropical regions, although some species are also found in parts of southern Europe and Asia. There are introduced populations in Hawaii and probably in California and Florida too.

B. New species are still discovered quite frequently. Dr. Andrew Marshall, a conservationist from York University, was surveying monkeys in Tanzania. Accidently, he stumbled across a twig snake in the Magombera forest, which, frightened, coughed up a chameleon and fled. Though a colleague persuaded him not to touch it because of the venom's risk, Marshall suspected it might be a new species and took a photograph to send to colleagues, who confirmed his suspicions. Kinyongia Magombera, literally "the chameleon from Magombera," is the result, and the fact it was not easy to identify is precisely what made it unique. The most remarkable features of chameleons are their ability to change colour and ability rivalled only by cuttlefish and octopi in the animal kingdom. Because of this, colour is not the best thing for telling chameleons apart, and different species are usually identified based on the patterning and shape of the head, and the arrangement of scales. In this case, it was the bulge of scales on the chameleon's nose.

C. Chameleons can use colour for both communication and camouflage by switching from bright, showy colours to the exact colour of a twig within seconds. They show an extraordinary range of colours, from nearly black to bright blues, oranges, pinks, and greens, even several at once. A popular misconception is that chameleons can match whatever background they are placed on, whether a chequered red and yellow shirt or a Smartie box. But each species has a characteristic set of cells containing pigment distributed over their bodies in a specific pattern, which determines the range of colours and patterns they can show. To the great disappointment of many children, placing a chameleon on a Smartie box generally results in a stressed, confused, dark grey or mottled chameleon.

D. Chameleons are visual animals with excellent eyesight, and they communicate with colour. When two male dwarf chameleons encounter each other, each shows its brightest colours. They puff out their throats and present themselves side-on with their bodies flattened to appear as large as possible and show off their colours. This enables them to assess each other from a distance. If one is clearly superior, the other quickly changes to submissive colouration, usually a dull combination of greys or

browns. If the opponents are closely matched and both maintain their bright colours, the contest can escalate to physical fighting and jaw-locking, each trying to push each other along the branch in a contest of strength. Eventually, the loser will signal his defeat with submissive colouration.

E. Females also have aggressive displays used to repel male attempts at courtship. When courting a female, males display the same bright colours that they use during contests. Most of the time, females are unreceptive and aggressively reject males by displaying a contrasting light and dark colour pattern, with their mouths open and moving their bodies rapidly from side to side. If the male continues to court a female, she often chases and bites him until he retreats. The range of colour-change during female displays, although impressive, is not as great as that shown by males.

F. Many people assume that colour change evolved to enable chameleons to match a greater variety of backgrounds in their environment. If this was the case, then chameleons' ability to change colours should be associated with the range of background colours in the chameleon's habitat, but there is no evidence for such a pattern. For example, forest habitats might have a greater range of brown and green background colours than grasslands, so forest-dwelling species might be expected to have higher colour change powers. Instead, the males whose display colours are the most eye-catching, show the greatest colour change. Their displays are composed of colours that contrast highly with each other and the background vegetation. This suggests that the species that evolved the most impressive capacities for colour change did so to enable them to intimidate rivals or attract mates rather than to facilitate camouflage.

G. How do we know that chameleon display colours are eye-catching to another chameleon – or, for that matter, to a predatory bird? Getting a view from the perspective of chameleons or their bird predators requires information on the chameleon's or bird's visual system and how their brains might process visual information. This is because the perceived colours of an object depend on the brain's wiring as on the physical properties of the object itself. Luckily, recent scientific advances have made it possible to obtain such measurements in the field, and information on visual systems of a variety of animals is becoming increasingly available.

H. The spectacular diversity of colours and ornaments in nature has inspired biologists for centuries. But if we want to understand the function and evolution of animal colour patterns, we need to know how they are perceived by the animals themselves – or their predators. After all, camouflage and conspicuousness are in the eye of the beholder.

Questions 1-4

Answer the questions below.

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

Write your answers in boxes 1-4 on your answer sheet.

1. What kind of climate do most chameleons live in? …….

2. Which animal caught a chameleon from an undiscovered species? ……..

3. What was the new species named after? ……

4. Which part of the body is unique to the species Kinyongia Magombera? ……..

Questions 5-13

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

In boxes 5-13 on your answer sheet, write

TRUE, if the statement agrees with the information

FALSE, if the statement contradicts the information

NOT GIVEN, if there is no information on this

5. Few creatures can change colour as effectively as cuttlefish.

6. Chameleons can imitate a pattern provided there are only two colours.

7. Chameleons appear to enjoy trying out new colours.

8. Size matters more than colour when male chameleons compete.

9. After a fight, the defeated male hides among branches of a tree.

10. Females use colour and movement to discourage males.

11. The popular explanation of why chameleons change colour has been proved wrong.

12. There are more predators of chameleons in grassland habitats than In others.

13. Measuring animals' visual systems necessitates removing them from their habitat.

Reading Passage 2

You should spend about 20 minutes on Questions 13-26, which are based on Reading Passage 2 below.

The Pursuit Of Happiness

A. In late 1990, psychologist Martin Seligman of the University of Pennsylvania urged colleagues to observe optimal moods with the same kind of focus with which they had for so long studied illnesses: we would never learn about the full range of human functions unless we knew as much about mental wellness as we do about mental illness. A new generation of psychologists built up a respectable body of research on positive character traits and happiness-boosting practices. At the same time, developments in neuroscience provided new clues to what makes us happy and what that looks like In the brain. Self-appointed experts took advantage of the trend with guarantees to eliminate worry, stress, dejection and even boredom. This happiness movement has provoked a great deal of opposition among psychologists who observe that the preoccupation with happiness has come at the cost of sadness, an important feeling that people have tried to banish from their emotional repertoire. Allan Horwitz of Rutgers laments that young people who are naturally weepy after breakups are often urged to medicate themselves instead of working through their sadness. Wake Forest University's Eric Wilson fumes that the obsession with happiness amounts to a 'craven disregard" for the melancholic perspective that has given rise to the greatest works of art. "The happy man," he writes, 'is a hollow man.'

B. After all, people are remarkably adaptable. Following a variable period of adjustment, we bounce back to our previous level of happiness, no matter what happens to us. (There are some scientifically proven exceptions, notably suffering the unexpected loss of a job or a partner. The events tend to permanently knock people back a step.) Our adaptability works in two directions. Because we are so adaptable, points out Professor Sonja J.yubomirsky of the University of California, we quickly get used to many of the accomplishments we strive for in life, such as landing the big job or getting married. Soon after we reach a milestone, we start to feel that something is missing. We begin coveting another worldly possession or eyeing a social advancement. But such an approach keeps us tethered to a treadmill where happiness is always just out of reach, one toy or one step away. It's possible to get off

the treadmill entirely by focusing on activities that are dynamic, surprising, and attention-absorbing. and thus less likely to bore us than, say, acquiring shiny new toys.

C. Moreover, happiness is not a reward tor escaping pain. Russ Harris, the author of The Happiness Trap, calls popular conceptions of happiness dangerous because they set people up for a 'struggle against reality'. They don't acknowledge that real life is full of disappointments, loss, and inconveniences."If you're going to live a rich and meaningful life.* Harris says, "you're going to feel a full range of emotions." Action toward goals other than happiness makes people happy. It is not crossing the most rewarding finish line, it is anticipating achieving the goal. University of Wisconsin neuroscientist Richard Davidson has found that working hard toward a goal, and making progress to the point of expecting a goal to be realized, activates not only positive feelings but also suppresses negative emotions such as fear and depression.

D. We are constantly making decisions, ranging from what clothes to put on to whom we should marry, not to mention all those flavours of ice cream. We base many of our decisions on whether we think a particular preference will increase our well-being. Intuitively, we seem convinced that the more choices we have, the better off we will ultimately be. But our world of unlimited opportunity imprisons us more than it makes us happy. In what Swarthmore psychologist Barrs-Schwartz calls "the paradox of choice." lacing many possibilities leaves us stressed out – and less satisfied with whatever we do decide. Having too many choices keeps us wondering about all the opportunities missed.

E. Besides, not everyone can put on a happy face. Rirlxira Held, a professor of psychology at Bowdoin College, rails against "the tyranny of the positive attitude". 'Looking on the bright side isn't possible for some people and is even counterproductive," she insists. 'When you put pressure on people to cope in a way that doesn't fit them, it not only doesn't work, it makes them feel like a failure on top of already feeling bad." The one-size-fits-all approach to managing emotional life is misguided, agrees Professor Julie Norem, author of The Positive Power of Negative Thinking. In her research, she has shown that the defensive pessimism that anxious people feel can be harnessed to help them get things done, which in turn makes them happier. A naturally pessimistic architect, for example, can set low expectations for an upcoming presentation and review all of the bad outcomes that she's imagining so that she can prepare carefully and increase her chances of success.

F. By contrast, an individual who is not living according to their values, will not be happy, no matter how much they achieve. Some people, however, are not sure what their values are. In that case, Harris has a great question: 'Imagine I could wave a magic wand to ensure that you would have the approval and admiration of everyone on the planet, forever. What, in that case, would you choose to do with your life?" Once this has been answered honestly, you can start taking steps toward your ideal vision of yourself. The actual answer is unimportant, as long as you're living consciously. The state of happiness is not really a state at all. It's an ongoing personal experiment.

Questions 14-19

Reading Passage 2 has six paragraphs A-F.

Which paragraph mentions the following?

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

NB You may use **any letter more than once.**

14. the need for individuals to understand what really matters to them

15. tension resulting from a wide variety of alternatives

16. the hope of success as a means of overcoming unhappy feelings

17. people who call themselves specialists

18. human beings' capacity for coping with change

19. doing things which are interesting in themselves

Questions 20 and 21:

Choose **TWO** letters A-E.

Write the correct letters in boxes **20** and **21** on your answer sheet

Which TWO of the following people argue against aiming for constant happiness?

A. Martin Seligman

B. Eric Wilson

C. Sonja Lyubomirsky

D. Russ Harris

E. Barry Schwartz

Questions 22 and 23:

Choose **TWO** letters A-E.

Write the correct letters in boxes **22** and **23** on your answer sheet.

Which TWO of the following beliefs are identified as mistaken in the text?

A. Inherited wealth brings less happiness than earned wealth.

B. Social status affects our perception of how happy we are.

C. An optimistic outlook ensures success.

D. Unhappiness can and should be avoided.

E. Extremes of emotion are normal in the young.

Questions 24-26

Complete the sentences below.

Choose **NO MORE THAN ONE WORD** from the passage for each answer.

Write your answers in boxes 24-26 on your answer sheet.

24. In order to have a complete understanding of how people's minds work, Martin Seligman suggested that research should examine our most positive …….. as closely as it does our psychological problems.

25. Soon after arriving at a …… in their lives, people become accustomed to what they have achieved and have a sense that they are lacking something.

26. People who are …….. by nature are more likely to succeed if they make a thorough preparation for a presentation.

Reading Passage 3

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

The Deep Sea

A. At a time when most think of outer space as the final frontier, we must remember that a great deal of unfinished business remains here on earth. Robots crawl on the surface of Mars, and spacecraft exit our solar system, but most of our planet has still never been seen by human eyes. It seems ironic that we know more about impact craters on the far side of the moon than about the longest and largest mountain range on earth. It is incredible that human beings crossed a quarter of a million miles of space to visit our nearest celestial neighbour before penetrating just two miles deep into the earth own waters to explore the Midocean Ridge. And it would be hard to imagine a more significant part of our planet to investigate – a chain of volcanic mountains 42,000 miles long where most of the earth's solid surface was born, and where vast volcanoes continue to create new submarine landscapes.

B. The figure we so often see quoted 71% of the earth's surface – understates the oceans' importance. If you consider three-dimensional volumes instead, the land dwellers' share of the planet shrinks even more toward insignificance: less than 1% of the total. Most of dying oceans' enormous volume, lies deep below the familiar surface. The upper sunlit layer, by one estimate, contains only 2 or 3% of the total space available to life. The other 97% of the earth's biosphere lies deep beneath the water's surface, where sunlight never penetrates. Until recently, it was impossible to study the deep ocean directly. By the sixteenth century, diving bells allowed people to stay underwater for a short time: they could swim to the hell to breathe air trapped underneath it rather than return to the surface. Later, other devices, including pressurized or armoured suits, heavy' metal helmets, and compressed air supplied through hoses from dying surface, allowed at least one diver to reach 500 feet or so. It was 1930 when a biologist named William Beebe and his engineering colleague Otis Barton sealed themselves into a new kind of diving craft, an invention that finally allowed humans to penetrate beyond the shallow sunlit layer of the sea and the history of deep-sea exploration began. Science then was largely incidental – something that happened along the way. In terms of technical ingenuity and human bravery, this part of the story is every bit as amazing as the history of early aviation. Yet many of these individuals, and the deep-diving vehicles that they built and tested, arc not well known.

C. It was not until the 1970s that deep-diving manned submersibles were able to reach the Midocean Ridge and begin making major contributions to a wide range of scientific questions. A burst of discoveries followed in short order. Several of these profoundly changed the whole fields of science and their implications are still not fully understood. For example, biologists may now be seeing – in the strange communities of microbes and animals that live around deep volcanic vents – clues to the origin

of life on earth. No one even knew that these communities existed before explorers began diving to the bottom in a submersible. Entering the deep, black abyss presents unique challenges for which humans must carefully prepare if they wish to survive. It is an unforgiving environment, both harsh and strangely beautiful, that few who have not experienced it firsthand can fully appreciate. Even the most powerful searchlights penetrate the only lens of feet. Suspended particles scatter tile light and water itself is for less transparent than air; it absorbs and scatters light. The ocean also swallows other types of electromagnetic radiation, including radio signals. That is why many deep-sea vehicles dangle from tethers. Inside those tethers, copper wires or fibre optic strands transmit signals that would dissipate and die if broadcast into open water.

D. Another challenge is that the temperature near the bottom in very deep water typically hovers just four degrees above freezing, and submersibles rarely have much insulation. Since water absorbs heat more quickly than air, the cold down below seems to penetrate a diving capsule far more quickly than it would penetrate, say, a control van up above, on the deck of the mother ship. And finally, the abyss clamps down with crushing pressure on anything that enters it. 'This force is like air pressure on land, except that water is much heavier than air. At sea level on land, we don't even notice 1 atmosphere of pressure, about 15 pounds per square inch, the weight of the earth's blanket of air. In the deepest part of die ocean, nearly seven miles down, it's about 1,200 atmospheres, 18,000 pounds per square inch. A square-inch column of lead would crush down on your body with equal force if it were 3,600 feet tall.

E. Fish that live in the deep don't feel the pressure, because they are filled with water from their environment. It has already been compressed by abyssal pressure as much as water can be (which is not much). A diving craft, however, is a hollow chamber, rudely displacing the water around it. That chamber must withstand the full brunt of deep-sea pressure – thousands of pounds per square inch. If seawater with that much pressure behind it ever finds a way to break inside, it explodes through the hole with laserlike intensity. It was into such a terrifying environment that the first twentieth-century explorers ventured.

Questions 27-30:

Write the correct letter. A, B, C or D, in boxes 27-30 on your answer sheet.

27. In the first paragraph, the writer finds it surprising that …….

A. we send robots to Mars rattier than to the sea bed.

B. we choose to explore the least accessible side of the moon.

C. people reached the moon before they explored the deepest parts of the earth's oceans.

D. spaceships are sent beyond our solar system instead of exploring it.

28. The writer argues that saying 71 % of the earth's surface is the ocean is not accurate because of it …….

A. ignores the depth of the world's oceans.

B. is based on an estimated volume.

C. overlooks the significance of landscape features.

D. refers to the proportion of water in which life is possible.

29. How did the diving bell help divers?

A. It allowed each diver to carry a supply of air underwater.

B. It enabled piped air to reach deep below the surface.

C. It offered access to a reservoir of air below the surface.

D. It meant that they could dive as deep as 500 feet.

30. What point does the writer make about scientific discoveries between 1930 and 1970?

A. They were rarely the primary purpose of deep-sea exploration.

B. The people who conducted experiments were not professional scientists.

C. Many people refused to believe the discoveries that were made.

D. They involved the use of technologies from other disciplines.

Questions 31-36

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

In boxes 31-36 on your answer sheet, write

YES, if the statement agrees with the views of the writer

NO, if the statement contradicts the views of the writer

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

31. The Mid-ocean Ridge is largely the same as when the continents emerged.

32. We can make an approximate calculation of the percentage of the ocean which sunlight penetrates.

33. Many unexpected scientific phenomena came to light when exploration of the Mid-ocean Ridge began.

34. The number of people exploring the abyss has risen sharply in the 21st century.

35. One danger of the darkness is that deep-sea vehicles become entangled in vegetation.

36. The construction of submersibles offers little protection from the cold at great depths.

Questions 37-40:

Complete the summary using the list of words A-I below.

Deep diving craft

A diving craft has to be 37_____ enough to cope with the enormous pressure of the abyss, which is capable of crushing almost anything. Unlike creatures that live there, which are not 38 …… because they contain compressed water, a submersible is filled with 39 …… If it has a weak spot in its construction, there will be a 40 …….. explosion of water into the craft.

A. ocean

B. air

C. deep

D. hollow

E. sturdy

F. atmosphere

G. energetic

H. violent

I. heavy

Answers

Reading Passage 1

1. tropical

2. (a) (twig) snake

3. (a/the) forest (of Magombera)/Magombera (forest)

4. (the) nose

5. TRUE

6. FALSE

7. FALSE

8. FALSE

9. NOT GIVEN

10. TRUE

11. TRUE

12. NOT GIVEN

13. FALSE

Reading Passage 2

14. F

15. D

16. C

17. A

18. B

19. B

20/21. B/D (in any order)

22/23. C/D (in any order)

24. moods

25. milestone

26. pessimistic

Reading Passage 3

27. C

28. A

29. C

30. A

31. NO

32. YES

33. YES

34. NOT GIVEN

35. NOT GIVEN

36. YES

37. E

38. D

39. B

40. H

TEST 13. Reading Passage 1

You should spend about 20 minutes on Questions 1-13, which are based on Reading Passage 1 on the following pages

Natural Pesticide In India

A. A dramatic story about cotton farmers in India shows how destructive pesticides can be for people and the environment; and why today's agriculture is so dependent on pesticides. This story also shows that it's possible to stop using chemical pesticides without losing a crop to ravaging insects, and it explains how to do it.

B. The story began about 30 years ago, a handful of families migrated from the Guntur district of Andhra Pradesh, southeast India, into Punukula, a community of around 900 people farming plots of between two and 10 acres. The outsiders from Guntur brought cotton-culture with them. Cotton wooed farmers by promising to bring in more hard cash than the mixed crops they were already growing to eat and sell: millet, sorghum, groundnuts, pigeon peas, mung beans, chilli, and rice. But raising cotton meant using pesticides and fertilizers – until then a mystery to the mostly illiterate farmers of the community. When cotton production started spreading through Andhra Pradesh state. The high value of cotton made it an exceptionally attractive crop, but growing cotton required chemical fertilizers and pesticides. As most of the farmers were poor, illiterate, and without previous experience using agricultural chemicals, they were forced to rely on local, small-scale agricultural dealers for advice. The dealers sold them seeds, fertilizers, and pesticides on credit and also guaranteed the purchase of their crops. The dealers themselves had little technical knowledge about pesticides. They merely passed on promotional information from multinational chemical companies that supplied their products.

C. At first, cotton yields were high, and expenses for pesticides were low because cotton pests had not yet moved in. The farmers had never earned so much! But within a few years, cotton pests like bollworms and aphids plagued the fields, and the farmers saw how rapid insect evolution can be. Repeated spraying killed off the weaker pests, but left the ones most resistant to pesticides to multiply. As pesticide resistance mounted, the farmers had to apply more and more of the pesticides to get the same results. At the same time, the pesticides killed off birds, wasps, beetles, spiders, and other predators that had once provided natural control of pest insects. Without these predators, the pests could destroy the entire crop if pesticides were not used. Eventually, farmers were mixing pesticide "cocktails" containing as many as ten different brands and sometimes having to spray their cotton as frequently as two times a week. They were really hooked!

D. The villagers were hesitant, but one of Punukula's village elders decided to risk trying the natural methods instead of pesticides. His son had collapsed with acute pesticide poisoning and survived but

the hospital bill was staggering. SECURE's staff coached this villager on how to protect his cotton crop by using a toolkit of natural methods that India's Center for Sustainable Agriculture put together in collaboration with scientists at Andhra Pradesh's state university. They called the toolkit "Non-Pesticide Management" — or" NPM."

E. The most important resource in the NPM toolkit was the neem tree (Azadirachta indica) which is common throughout much of India. Neem tree is a broad-leaved evergreen tree related to mahogany. It protects itself against insects by producing a multitude of natural pesticides that work in a variety of ways: with an arsenal of chemical defences that repel egg-laying, interfere with insect growth, and most important, disrupt the ability of crop-eating insects to sense their food.

F. In fact, neem has been used traditionally in India to protect stored grains from insects and to produce soaps, skin lotions, and other health products. To protect crops from insects, neem seeds are simply ground into a powder that is soaked overnight in water. The solution is then sprayed onto the crop. Another preparation, neem cake, can be mixed into the soil to kill pests and diseases in the soil, and it doubles as an organic fertilizer high in nitrogen. Neem trees grow locally, so the only "cost" is the labour to prepare neem for application to fields.

G. The first farmer's trial with NPM was a complete success! His harvest was as good as the harvests of farmers that were using pesticides, and he earned much more because he did not spend a single rupee on pesticides. Inspired by this success, 20 farmers tried NPM the next year. SECURE posted two well-trained staff in Punukula to teach and help everyone in the village, and the village women put pressure on their husbands to stop using toxic chemicals. Families that were no longer exposing themselves to pesticides began to feel much better, and the rapid improvements in income, health, and general wellbeing quickly sold everyone on the value of NPM. By 2000, all the farmers in Punukula were using NPM, not only for cotton but for their other crops as well.

H. The suicide epidemic came to an end. And with the cash, health, and energy that returned when they stopped poisoning themselves with pesticides, the villagers were inspired to start more community and business projects. The women of Punukula created a new source of income by collecting, grinding, and selling neem seeds for NPM in other villages. The villagers rescued their indentured children and gave them special six-month "catch-up" courses to return to school.

I. Fighting against pesticides, and winning, increased village solidarity, self-confidence, and optimism about the future. When dealers tried to punish NPM users by paying less for NPM cotton, the farmers united to form a marketing cooperative that found fairer prices elsewhere. The leadership and collaboration skills that the citizens of Punukula developed in the NPM struggle have helped them to take on other challenges, like water purification, building a cotton gin to add value to the cotton before

they sell it, and convincing the state government to support NPM over the objection of multi-national pesticide corporations.

Questions 1-4

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

In boxes 1-4 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

1. Cotton in Andhra Pradesh state could really bring more income to the local farmers than traditional farming.

2. The majority of farmers had used agricultural pesticides before 30 years.

3. The yield of cotton is relatively tower than that of other agricultural crops.

4. The farmers didn't realize the spread of the pests was so fast.

Questions 5-11

Complete the summary below.

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

Write your answers in boxes 5-10 on your answer sheet.

The Making of pesticide protecting crops against insects

The broad-leaved neem tree was chosen, it is a fast-growing and 5_____ tree and produces amount of 6_____ for itself that can be effective like insects repellent. Firstly, neem seeds need to be crushed into 7_____ form, which is left behind 8_____ in water. Then we need to spray the solution onto the crop. A special 9_____ is used when mix with soil in order to eliminate bugs and bacteria, and its effect 10_____ when it adds the level of 11_____in this organic fertilizer meanwhile.

Questions 12-14

Answer the questions below.

Choose **NO MORE THAN TWO WORDS AND/OR A NUMBE**R from the passage for each answer Write your answers in boxes 12-14 on your answer sheet.

12. In which year did all the farmers use NPM for their crops in Punukula?

13. What gave the women of Punukula a business opportunity to NPMs?

14. Name one project that the citizens of Punukula decide to develop in the NPM.

Reading Passage 2

You should spend about 20 minutes on Questions 15 – 27, which are based on Reading Passage 2 below.

Numeracy: Can Animals Tell Numbers?

A. Prime among basic numerical faculties is the ability to distinguish between a larger and a smaller number, says psychologist Elizabeth Brannon. Humans can do this with ease – providing the ratio is big enough – but do other animals share this ability? In one experiment, rhesus monkeys and university students examined two sets of geometrical objects that appeared briefly on a computer monitor. They had to decide which set contained more objects. Both groups performed successfully but, importantly, Brannon's team found that monkeys, like humans, make more errors when two sets of objects are close in number. The students' performance ends up looking just like a monkey's. It's practically identical,' she says.

B. Humans and monkeys are mammals, in the animal family known as primates. These are not the only animals whose numerical capacities rely on ratio, however. The same seems to apply to some amphibians. Psychologist Claudia Uller's team tempted salamanders with two sets of fruit flies held in clear tubes. In a series of trials, the researchers noted which tube the salamanders scampered towards, reasoning that if they had a capacity to recognise the number, they would head for the larger number. The salamanders successfully discriminated between tubes containing 8 and 16 flies respectively, but not between 3 and 4, 4 and 6, or 8 and 12. So it seems that for the salamanders to discriminate between two numbers, the larger must be at least twice as big as the smaller. However, they could differentiate between 2 and 3 flies just as well as between 1 and 2 flies, suggesting they recognise small numbers in a different way from larger numbers.

C. Further support for this theory comes from studies of mosquitofish, which instinctively joins the biggest shoal they can. A team at the University of Padova found that while mosquitofish can tell the difference between a group containing 3 shoal-mates and a group containing 4, they did not show a preference between groups of 4 and 5. The team also found that mosquitofish can discriminate between numbers up to 16, but only if the ratio between the fish in each shoal was greater than 2:1. This indicates that the fish, like salamanders, possess both the approximate and precise number systems found in more intelligent animals such as infant humans and other primates.

D. While these findings are highly suggestive, some critics argue that the animals might be relying on other factors to complete the tasks, without considering the number itself. 'Any study that's claiming an animal is capable of representing number should also be controlling for other factors, ' says Brannon. Experiments have confirmed that primates can indeed perform numerical feats without extra clues, but what about the more primitive animals?

E. To consider this possibility, the mosquitofish tests were repeated, this time using varying geometrical shapes in place of fish. The team arranged these shapes so that they had the same overall surface area and luminance even though they contained a different number of objects. Across hundreds of trials on 14 different fishes, the team found they consistently discriminated 2 objects from 3. The team is now testing whether mosquitofish can also distinguish 3 geometric objects from 4.

F. Even more primitive organisms may share this ability. Entomologist Jurgen Tautz sent a group of bees down a corridor, at the end of which lay two chambers – one which contained sugar water, which they like, while the other was empty. To test the bees' numeracy, the team marked each chamber with a different number of geometrical shapes – between 2 and 6. The bees quickly learned to match the number of shapes with the correct chamber. Like the salamanders and fish, there was a limit to the bees' mathematical prowess – they could differentiate up to 4 shapes, but failed with 5 or 6 shapes.

G. These studies still do not show whether animals learn to count through training, or whether they are born with the skills already intact. If the latter is true, it would suggest there was a strong evolutionary advantage to a mathematical mind. Proof that this may be the case has emerged from an experiment testing the mathematical ability of three and four-day-old chicks. Like mosquitofish, chicks prefer to be around as many of their siblings as possible, so they will always head towards a larger number of their kin. If chicks spend their first few days surrounded by certain objects, they become attached to these objects as if they were family. Researchers placed each chick in the middle of a platform and showed it two groups of balls of paper. Next, they hid the two piles behind screens, changed the quantities and revealed them to the chick. This forced the chick to perform simple computations to decide which side now contained the biggest number of its "brothers". Without any prior coaching, the chicks scuttled to the larger quantity at a rate well above chance. They were doing some very simple arithmetic, claim the researchers.

H. Why these skills evolved is not hard to imagine since it would help almost any animal forage for food. Animals on the prowl for sustenance must constantly decide which tree has the most fruit, or which patch of flowers will contain the most nectar. There are also other, less obvious, advantages of numeracy. In one compelling example, researchers in America found that female coots appear to calculate how many eggs they have laid – and add any in the nest laid by an intruder – before making any decisions about adding to them. Exactly how ancient these skills are is difficult to determine. Only by studying the numerical abilities of more and more creatures using standardized procedures can we hope to understand the basic preconditions for the evolution of number.

Questions 15-21

Answer the table below.

Choose **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the passage for each answer. Write your answers in boxes 15-21 on your answer sheet

Animal Numeracy		
Subjects	Experiments	Results
Mammals and birds		
rhesus monkeys and humans	looked at two sets of geometrical objects on the computer screen	performance of two groups is almost 15……..
Chicks	chose between two sets of 16……. which are altered	chicks can do calculations in order to choose the larger group
Coots	the behaviour of female birds was observed	the bird seems to have the ability to 17…….
Amphibians, fish, and insects		

Salamanders	offered clear tubes containing different quantities of 18……..	salamanders distinguish between numbers over four if the bigger number is at least two times larger
19 ……..	shown real shoals and later artificial ones of geometrical shapes; these are used to check the influence of total 20……. and brightness	subjects know the difference between two and three and possibly three and four, but not between four and five
Bees	had to learn where 21…….. was stored	could soon choose the correct place

Do the following statements agree with the information given in Reading Passage 2? In boxes 22-27 on your answer sheet, write

TRUE, if the statement is true

FALSE, if the statement is false

NOT GIVEN, if the information is not given in the passage

22. Primates are better at identifying the larger of two numbers if one is much bigger than the other.

23. Jurgen Tautz trained the insects in his experiment to recognize the shapes of individual numbers.

24. The research involving young chicks took place over two separate days.

25. The experiment with chicks suggests that some numerical ability exists in newborn animals.

26. Researchers have experimented by altering quantities of nectar or fruit available to certain wild animals.

27. When assessing the number of eggs in their nest, coots take into account those of other birds.

Reading Passage 3

Multitasking Debate

Can you do them at the same time?

A. Talking on the phone while driving isn't the only situation where we're worse at multitasking than we might like to think we are. New studies have identified a bottleneck in our brains that some say means we are fundamentally incapable of true multitasking. If experimental findings reflect real-world performance, people who think they are multitasking, are probably just underperforming in all – or at best, all but one – of their parallel pursuits. Practice might improve your performance, but you will never be as good as when focusing on one task at a time.

B. The problem, according to Rene Marois, a psychologist at Vanderbilt University in Nashville, Tennessee, is that there's a sticking point in the brain. To demonstrate this, Marois devised an experiment to locate it. Volunteers watch a screen and when a particular image appears, a red circle, say, they have to press a key with their index finger. Different coloured circles require presses from different fingers. Typical response time is about half a second, and the volunteers quickly reached their peak performance. Then they learn to listen to different recordings and respond by making a specific sound. For instance, when they hear a bird chirp, they have to say "ba"; an electronic sound should elicit a "ko", and so on. Again, no problem. A normal person can do that in about half a second, with almost no effort.

C. The trouble comes when Marois shows the volunteers an image, and then almost immediately plays them a sound. Now they're flummoxed. "If you show an image and play a sound at the same time, one task is postponed," he says. In fact, if the second task is introduced within the half-second or so it takes to process and react to the first, it will simply be delayed until the first one is done. The largest dual-task delays occur when the two tasks are presented simultaneously; delays progressively shorten as the interval between presenting the tasks lengthens.

D. There are at least three points where we seem to get stuck, says Marois. The first is in simply identifying what we're looking at. This can take a few tenths of a second, during which time we are not able to see and recognize the second item. This limitation is known as the "attentional blink": experiments have shown that if you're watching out for a particular event and a second one shows up unexpectedly any time within this crucial window of concentration, it may register in your visual cortex but you will be unable to act upon it. Interestingly, if you don't expect the first event, you have no trouble responding to the second. What exactly causes the attentional blink is still a matter for debate.

E. A second limitation is in our short-term visual memory. It's estimated that we can keep track of about four items at a time, fewer if they are complex. This capacity shortage is thought to explain, in part, our astonishing inability to detect even huge changes in scenes that are otherwise identical, so-called

"change blindness". Show people pairs of near-identical photos – say, aircraft engines in one picture have disappeared in the other – and they will fail to spot the differences. Here again, though, there is disagreement about what the essential limiting factor really is. Does it come down to a dearth of storage capacity, or is it about how much attention a viewer is paying?

F. A third limitation is that choosing a response to a stimulus – braking when you see a child in the road, for instance, or replying when your mother tells you over the phone that she' s thinking of leaving your dad – also takes brainpower. Selecting a response to one of these things will delay by some tenths of a second your ability to respond to the other. This is called the "response selection bottleneck" theory, first proposed in 1952.

G. But David Meyer, a psychologist at the University of Michigan, Ann Arbor, don't buy the bottleneck idea. He thinks dual-task interference is just evidence of a strategy used by the brain to prioritise multiple activities. Meyer is known as something of an optimist by his peers. He has written papers with titles like "Virtually perfect time-sharing in dual-task performance: Uncorking the central cognitive bottleneck". His experiments have shown that with enough practice – at least 2000 tries – some people can execute two tasks simultaneously as competently as if they were doing them one after the other. He suggests that there is a central cognitive processor that coordinates all this and, what's more, he thinks it uses discretion sometimes it chooses to delay one task while completing another.

H. Marois agrees that practice can sometimes erase interference effects. He has found that with just 1 hour of practice each day for two weeks, volunteers show a huge improvement at managing both his tasks at once. Where he disagrees with Meyer is in what the brain is doing to achieve this. Marois speculates that practice might give us the chance to find less congested circuits to execute a task – rather like finding trusty back streets to avoid heavy traffic on main roads – effectively making our response to the task subconscious. After all, there are plenty of examples of subconscious multitasking that most of us routinely manage: walking and talking, eating and reading, watching TV and folding the laundry.

I. It probably comes as no surprise that, generally speaking, we get worse at multitasking as we age. According to Art Kramer at the University of Illinois at Urbana- Champaign, who studies how ageing affects our cognitive abilities, we speak in our 20s. Though the decline is slow through our 30s and on into our 50s, it is there; and after 55, it becomes more precipitous. In one study, he and his colleagues had both young and old participants do a simulated driving task while carrying on a conversation. He found that while young drivers tended to miss background changes, older drivers failed to notice things that were highly relevant. Likewise, older subjects had more trouble paying attention to the more important parts of a scene than young drivers.

J. It's not all bad news for over- 55s, though. Kramer also found that older people can benefit from the practice. Not only did they learn to perform better, but brain scans also showed that underlying that improvement was a change in the way their brains become active. While it's clear that practice can often make a difference, especially as we age, the basic facts remain sobering. "We have this impression of an almighty complex brain," says Marois, "and yet we have very humbling and crippling limits." For most of our history, we probably never needed to do more than one thing at a time, he says, and so we haven't evolved to be able to. Perhaps we will in the future, though. We might yet look back one day on people like Debbie and Alun as ancestors of a new breed of a true multitasker.

Questions 28-32

The reading Passage has ten paragraphs A-J.

Which paragraph contains the following information?

Write the correct letter in boxes 28-32 on your answer sheet.

28. A theory explained delay happens when selecting one reaction

29. Different age group responds to important things differently

30. Conflicts happened when visual and audio element emerge simultaneously

31. An experiment designed to demonstrates the critical part of the brain for multitasking

32. A viewpoint favours the optimistic side of multitasking performance

Questions 33-35

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

Write your answers in boxes 33-35 on your answer sheet.

33. Which one is correct about the experiment conducted by Ren6 Marois?

A. participants performed poorly on the listening task solely

B. volunteers press a different key on different colour

C. participants need to use different fingers on the different coloured object

D. they did a better job on Mixed image and sound information

34. Which statement is correct about the first limitation of Marois's experiment?

A. "attentional blink" takes about ten seconds

B. lag occurs if we concentrate on one object while the second one appears

C. we always have trouble in reaching the second one

D. the first limitation can be avoided by certain measures

35. Which one is NOT correct about Meyer's experiments and statements?

A. just after failure in several attempts can people execute dual-task

B. Practice can overcome dual-task interference

C. Meyer holds a different opinion on Marois's theory

D. an existing processor decides whether to delay another task or not

Questions 36-40

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

In boxes 36-40 on your answer sheet, write

YES, if the statement is true

NO, if the statement is false

NOT GIVEN, if the information is not given in the passage

36. The longer gap between the two presenting tasks means a shorter delay toward the second one.

37. Incapable human memory cause people to sometimes miss the differences when presented with two similar images.

38. Marois has a different opinion on the claim that training removes the bottleneck effect.

39. Art Kramer proved there is a correlation between multitasking performance and genders.

40. The author doesn't believe that the effect of practice could bring any variation.

Answers

Reading Passage 1

1. NOT GIVEN

2. FALSE

3. NOT GIVEN

4. TRUE

5. evergreen

6. natural pesticides

7. powder

8. overnight

9. neem cake

10. Doubles

11. Nitrogen

12. In 2000

13. neem seeds

14. water purification

Reading Passage 2

15. identical

16. balls of paper

17. count/calculate eggs

18. fruit flies

19. mosquitofish

20.surface area

21. sugar water

22. TRUE

23. FALSE

24. NOT GIVEN

25. TRUE

26. NOT GIVEN

27.TRUE

Reading Passage 3

28. F

29. G

30. C

31. B

32. G

33. D

34. B

35. D

36. S

37. YES

38. NO

39. NOT GIVEN

40. NOT GIVEN

TEST 14. Reading Passage 1

Eco-Resort Management Practices

A. Ecotourism is often regarded as a form of nature-based tourism and has become an important alternative source of tourists. In addition to providing the traditional resort-leisure product, it has been argued that ecotourism resort management should have a particular focus on best-practice environmental management, and educational and interpretive components, and direct and indirect contributions to the conservation of the natural and cultural environment (Ayala, 1996).

B. Couran Cove Island Resort is a large integrated ecotourism-based resort located south of Brisbane on the Gold Coast, Queensland, and Australia. As the world's population becomes increasingly urbanized, the demand for tourist attractions which are environmentally friendly, serene and offer amenities of a unique nature, has grown rapidly. Couran Cove Resort, which is one such tourist attractions, is located on South Stradbroke Island, occupying approximately 150 hectares of the island. South Stradbroke Island is separated from the mainland by the Broadwater, a stretch of sea 3 kilometres wide. More than a century ago, there was only one Stradbroke Island, and there were at least four aboriginal tribes living and hunting on the island. Regrettably, most of the original island dwellers were eventually killed by diseases such as tuberculosis, smallpox, and influenza by the end of the 19th century. The second shipwreck on the island in 1894, and the subsequent destruction of the ship (the Cambus Wallace) because it contained dynamite, caused a large crater in the sandhills on Stradbroke Island. Eventually, the ocean broke through the weakened landform and Stradbroke became two islands. Couran Cove Island Resort is built on one of the world's few naturally-occurring sand lands, which is home to a wide range of plant communities and one of the largest remaining remnants of the rare Livistona Rainforest left on the Gold Coast. Many mangrove and rainforest areas and Melaleuca Wetlands on South Stradbroke Island (and in Queensland) have been cleared, drained or filled for residential, industrial, agricultural or urban development in the first half of the 20th century. Farmers and graziers finally abandoned South Stradbroke Island in 1939 because the vegetation and the soil conditions there were not suitable for agricultural activities.

Sustainable practices of courant cove resort

C. Being located on an offshore island, the resort is only accessible by means of water transportation. The resort provides hourly ferry service from the marina on the mainland to and from the island. Within the resort, transport modes include walking trails, bicycle tracks, and the beach train. The reception area is the counter of the shop which has not changed in 8 years at least. The accommodation is an octagonal "Bure". These are large rooms that are clean but! The equipment is tired and in some cases just working. Our ceiling fan only worked on high speed for example. Beds are hard but clean, there are television, radio, an old air conditioner and a small fridge. These "Bures" are right on top of each other and night noises do carry so be careful what you say and do. The only thing is the mosquitos but if you forget to bring mosquito repellant they sell some on the island. As an ecotourism-based resort, most of the planning and development of the attraction has been concentrated on the need to co-exist with the fragile natural environment of South Stradbroke Island to achieve sustainable development.

Water and energy management

D. South Stradbroke Island has groundwater at the centre of the island, which has a maximum height of 3 meters above sea level. The water supply is recharged by rainfall and is commonly known as an unconfined freshwater aquifer (StK/1-). Couran Cove Island Resort obtains its water supply by tapping into this aquifer and extracting it via a bore system. Some of the problems which have threatened the island's freshwater supply include pollution, contamination, and over-consumption. In order to minimize some of these problems, all laundry activities are carried out on the mainland. The resort considers washing machines as onerous to the island's freshwater supply, and that the detergents contain a high level of phosphates which are a major source of water pollution. The resort uses LPG-power generation rather than a diesel-powered plant for its energy supply, supplemented by a wind turbine, which has reduced greenhouse emissions by 70% of diesel-equivalent generation methods. Excess heat recovered from the generator is used to heat the swimming pool. Hot water in the eco-cabins and for some of the resort's vehicles are solar-powered. Water-efficient fittings are also installed in showers and toilets. However, not all the appliances used by the resort are energy efficient, such as refrigerators. Visitors who stay at the resort are encouraged to monitor their water and energy usage via the in-house television systems and are rewarded with prizes (such as a free return trip to the resort) accordingly if their usage level is low.

Concluding remarks

E. We examined a case study of good management practice and a pro-active sustainable tourism stance of an eco-resort. In three years of operation, Couran Cove Island Resort has won 23 international and national awards, including the 2001 Australian Tourism Award in the 4-Star Accommodation category. The resort has embraced and has effectively implemented contemporary environmental management practices. It has been argued that the successful implementation of the principles of sustainability should promote long-term social, economic and environmental benefits while ensuring and enhancing the prospects of continued viability for the tourism enterprise. Couran Cove Island Resort does not conform to the characteristics of the Resort Development Spectrum, as proposed by Prideaux (2000). According to Prideaux, the resort should be at least at Phase 3 of the model (the National tourism phase), which describes an integrated resort providing 3-4 star hotel-type accommodation. The primary tourist market in Phase 3 of the model consists mainly of interstate visitors. However, the number of interstate and international tourists visiting the resort is small, with the principal locals and residents from nearby towns and the Gold Coast region. The carrying capacity of Couran Cove does not seem to be of any concern to the Resort management. Given that it is a private commercial ecotourist enterprise, regulating the number of visitors to the resort to minimize the damage done to the natural environment on South Stradbroke Island is not a binding constraint. However, the Resort's growth will eventually be constrained by its carrying capacity, and quantity control should be incorporated into the management strategy of the resort.

Questions 1 – 4.

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

Write your answers in boxes 1 -4 on your answer sheet.

1. The Stradbroke became two islands

A. by intended destruction of the ship of the Cambus Wallace

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

C. by the movement sandhills on Stradbroke Island

D. by the volcanic eruption on the island

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

A. In order to obtain its water supply via a bore system

B. In order to preserve the water and anti-pollution

C. In order to save the cost of installing onerous washing machines

D. In order to reduce the level of phosphates in the water around

3. What is the major water supplier in South Stradbroke Island is by

A. desalinating the seawater

B. collecting the rainfall

C. transporting from the mainland

D. boring groundwater

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

A. the LPG-power

B. a diesel-powered plant

C. the wind power

D. the solar-power

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

A. more awards for the resort's accommodation

B. sustainable administration and development in the long run

C. Economic and environmental benefits for the tourism enterprise

D. successful implementation of the Resort Development Spectrum

Questions 6-10

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 6-10 on your answer sheet.

Being located away from the mainland, tourists can attain the resort only by 6……. in regular service. Within the resort, transports include trails for walking or tracks for both 7…….. and the beach train. The on-island equipment is old-fashioned which is barely working such as the 8…….. overhead. There is a television, radio, an old 9…….. and a small fridge. And you can buy the repellant for 10…… if you forget to bring some.

Questions 11-13

Choose three correct letters among A-E

Write your answers in boxes 11-13 on your answer sheet.

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

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

B. the accommodation standard only conforms to the Resort Development Spectrum of Phase 3

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

D. the principal group visiting the resort is international tourists

E. its carrying capacity will restrict the future business' expansion

Reading Passage 2

You should spend about 20 minutes on question 14-26, which are based on reading passage 2 on the following pages.

TV Addiction 1

A. The amount of time people spend watching television is astonishing. On average, individuals in the industrialized world devote three hours a day to the pursuit —fully half of their leisure time, and more than on any single activity save work and sleep. At this rate, someone who lives to 75 would spend nine years in front of the tube. To some commentators, this devotion means simply that people enjoy TV and make a conscious decision to watch it. But if that is the whole story, why do so many people experience misgivings about how much they view? In Gallup polls in 1992 and 1999, two out of five adult respondents and seven out of 10 teenagers said they spent too much time watching TV. Other surveys have consistently shown that roughly 10 per cent of adults call themselves TV addicts.

B. To study people's reactions to TV, researchers have experiments in which they have monitored the brain waves (using an electroencephalograph, or EEG) to track behaviour and emotion in the normal course of life, as opposed to the artificial conditions of the lab. Participants carried a beeper, and we signaled them six to eight times a day, at random, over the period of a week; whenever they heard the beep, they wrote down what they were doing and how they were feeling using a standardized scorecard.

C. As one might expect, people who were watching TV when we beeped them reported feeling relaxed and passive. The EEG studies similarly show less mental stimulation, as measured by alpha brain-wave production, during viewing than during reading. What is more surprising is that the sense of relaxation ends when the set is turned off, but the feelings of passivity and lowered alertness continue. Survey participants say they have more difficulty concentrating after viewing than before. In contrast, they rarely indicate such difficulty after reading. After playing sports or engaging in hobbies, people report improvements in mood. After watching TV, people's moods are about the same or worse than before. That may be because of viewers' vague learned sense that they will feel less relaxed if they stop viewing. So they tend not to turn the set-off. Viewing begets more viewing which is the same as the experience of habit-forming drugs. Thus, the irony of TV: people watch a great deal longer than they plan to, even though prolonged viewing is less rewarding. In our ESM studies the longer people sat in front of the set, the less satisfaction they said they derived from it. For some, a twinge of unease or guilt that they aren't doing something more productive may also accompany and depreciate the enjoyment of prolonged viewing. Researchers in Japan, the U.K., and the U.S. have found that this guilt occurs much more among middle-class viewers than among less affluent ones.

D. What is it about TV that has such a hold on us? In part, the attraction seems to spring from our biological 'orienting response/ First described by Ivan Pavlov in 1927, the orienting response is our instinctive visual or auditory reaction to any sudden or novel stimulus. It is part of our evolutionary heritage, a built-in sensitivity to movement and potential predatory threats. In 1986 Byron Reeves of Stanford University, Esther Thorson of the University of Missouri and their colleagues began to study

whether the simple formal features of television—cuts, edits, zooms, pans, sudden noises — activate the orienting response, thereby keeping attention on the screen. By watching how brain waves were affected by formal features, the researchers concluded that these stylistic tricks can indeed trigger involuntary responses and 'derive their attentional value through the evolutionary significance of detecting movement… It is the form, not the content, of television that is unique.

E. The natural attraction to television's sound and the light starts very early in life. Dafna Lemish of Tel Aviv University has described babies at six to eight weeks attending to television. We have observed slightly older infants who, when lying on their backs on the floor, crane their necks around 180 degrees to catch what light through yonder window breaks. This inclination suggests how deeply rooted the orienting response is.

F. The Experience Sampling Method permitted us to look closely at most every domain of everyday life: working, eating, reading, talking to friends, playing a sport, and so on. We found that heavy viewers report feeling significantly more anxious and less happy than light viewers do in unstructured situations, such as doing nothing, daydreaming or waiting in line. The difference widens when the viewer is alone. Subsequently, Robert D. Mcllwraith of the University of Manitoba extensively studied those who called themselves TV addicts on surveys. On a measure called the Short Imaginal Processes Inventory (SIPI), he found that the self-described addicts are more easily bored and distracted and have poorer attentional control than the non-addicts. The addicts said they used TV to distract themselves from unpleasant thoughts and to fill time. Other studies over the years have shown that heavy viewers are less likely to participate in community activities and sports and are more likely to be obese than moderate viewers or non-viewers.

G. More than 25 years ago psychologist Tannis M. MacBeth Williams of the University of British Columbia studied a mountain community that had no television until cable finally arrived. Over time, both adults and children in the town became less creative in problem-solving, less able to persevere at tasks, and less tolerant of unstructured time.

H. Nearly 40 years ago Gary A. Steiner of the University of Chicago collected fascinating individual accounts of families whose set had broken. In experiments, families have volunteered or been paid to stop viewing, typically for a week or a month. Some fought, verbally and physically. In a review of these cold-turkey studies, Charles Winick of the City University of New York concluded: 'The first three or four days for most persons were the worst, even in many homes where the viewing was minimal and where there were other ongoing activities. In over half of all the households, during these first few days of loss, the regular routines were disrupted, family members had difficulties in dealing with the newly available time, anxiety and aggressions were expressed. By the second week, a move toward adaptation to the situation was common. 'Unfortunately, researchers have yet to flesh out these anecdotes; no one has systematically gathered statistics on the prevalence of these withdrawal symptoms.

I. Even though TV does seem to meet the criteria for substance dependence, not all researchers would go so far as to call TV addictive. Mcllwraith said in 1998 that 'displacement of other activities by television may be socially significant but still fall short of the clinical requirement of significant impairment.' He argued that a new category of 'TV addiction' may not be necessary if heavy viewing

stems from conditions such as depression and social phobia. Nevertheless, whether or not we formally diagnose someone as TV-dependent, millions of people sense that they cannot readily control the amount of television they watch.

Questions 14-18

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

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. Study shows that males are more likely to be addicted to TV than females.

15. Greater improvements in mood are experienced after watching TV than playing sports.

16. TV addiction works in similar ways as drugs.

17. It is reported that people's satisfaction is in proportion to the time they spend watching TV.

18. Middle-class viewers are more likely to feel guilty about watching TV than the poor.

Questions 19-23

Look at the following researchers (Questions 19-23) and the list of statements below.

Match each researcher with the correct statements.

Write the correct letter A-H in boxes 19-23 on your answer sheets.

19. Byron Reeves and Esther Thorson

20. Dafna Lemish

21. Robert D. McIlwraith

22. Tannis M. MacBeth Williams

23. Charles Winick

List of statements

A. Audiences would get hypnotized from viewing too much television.

B. People have been sensitive to TV signals from a younger age.

C. People are less likely to accomplish their work with television.

D. A handful of studies have attempted to study other types of media addiction.

E. The addictive power of television could probably minimize the problems.

F. Various media formal characters stimulate people's reaction on the screen.

G. People who believe themselves to be TV addicts are less likely to join in the group activities.

H. It is hard for people to accept life without a TV at the beginning.

Questions 24-26

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

Write the correct letter in boxes 24-26 on your answer sheet.

24. People in the industrialized world

A. devote ten hours watching TV on average.

B. spend more time on TV than other entertainment.

C. call themselves TV addicts.

D. working best.

25. When compared with light viewers, heavy viewers

A. like playing sport more than reading.

B. feels relaxed after watching TV.

C. spends more time daydreaming.

D. is more easily bored while waiting in line.

26. Which of the following statements is true about the family experiment?

A. Not all subjects participate in the experiment for free.

B. There has been a complete gathered data.

C. People are prevented from other activities during the experiment.

D. People cannot adapt to the situation until the end

Reading Passage 3

Question 27 – 31

Reading Passage 3 has five sections A-E.

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

Write the correct number i-viii in boxes 27-31 on your answer sheet.

List of Headings

i. Animals sometimes make music.
ii. Recent research on music
iii. The culture embedded in music
iv. Historical theories review
v. Communication in music with animals
vi. The contrast between music and language
vii. Questions on a biological link with human and music
viii. Music is good for babies.

27. Section A

28. Section B

29. Section C

30. Section D

31. Section E

Music: Language We All Speak

A. Music is one of the human species' relatively few universal abilities. Without formal training, any individual, from Stone Age tribesman to suburban teenager can recognize music and, in some fashion,

to make it. Why this should be so is a mystery. After all, music isn't necessary for getting through the day, and if it aids in reproduction, it does so only in highly indirect ways. Language, by contrast, is also everywhere- but for more obvious reasons. With language, you and the members of your tribe can organize a migration across Africa, build reed boats and cross the seas, and communicate at night even when you can't see each other. Modern culture, in all its technological extravagance, springs directly from the human talent for manipulating symbols and syntax. Scientists have always been intrigued by the connection between music and language. Yet over the years, words and melody have acquired a vastly different status in the lab and the seminar room. While language has long been considered essential to unlocking the mechanisms of human intelligence, music is generally treated as an evolutionary frippery-mere "auditory cheesecake," as the Harvard cognitive scientist Steven Pinker puts it.

B. But thanks to a decade-long wave of neuroscience research, that tune is changing. A flurry of recent publications suggests that language and music may equally be able to tell us who we are and where we're from – not just emotionally, but biologically. In July, the journal Nature Neuroscience devoted a special issue to the topic. And in an article in the August 6 issue of the Journal of Neuroscience, David Schwartz, Catherine Howe, and Dale Purves of Duke University argued that the sounds of music and the sounds of language are intricately connected. To grasp the originality of this idea, it's necessary to realize two things about how music has traditionally been understood. First, musicologists have long emphasized that while each culture stamps a special identity onto its music; the music itself has some universal qualities. For example, in virtually all cultures sound is divided into some or all of the 12 intervals that make up the chromatic scale – that is, the scale represented by the keys on a piano. For centuries, observers have attributed this preference for certain combinations of tones to the mathematical properties of sound itself. Some 2,500 years ago, Pythagoras was the first to note a direct relationship between the harmoniousness of a tone combination and the physical dimensions of the object that produced it. For example, a plucked string will always play an octave lower than a similar string half its size, and a fifth lower than a similar string two-thirds it's the length. This link between simple ratios and harmony has influenced music theory ever since.

C. This music-is-moth idea is often accompanied by the notion that music formally speaking at least, exists apart from the world in which it was created. Writing recently in The New York Review of Books, pianist and critic Charles Rosen discussed the long-standing notion that while painting and sculpture reproduce at least some aspects of the natural world, and writing describes thoughts and feelings we are all familiar with, music is entirely abstracted from the world in which we live. Neither idea is right, according to David Schwartz and his colleagues. Human musical preferences are fundamentally shaped not by elegant algorithms or ratios but by the messy sounds of real life, and of speech in particular -which in turn is shaped by our evolutionary heritage." The explanation of music, like the explanation of any product of the mind, must be rooted in biology, not in numbers per se," says Schwartz.

Schwartz, Howe, and Purves analyzed a vast selection of speech sounds from a variety of languages to reveal the underlying patterns common to all utterances. In order to focus only on the raw sound, they discarded all theories about speech and meaning and sliced sentences into random bites. Using a database of over 100,000 brief segments of speech, they noted which frequency had the greatest

emphasis in each sound. The resulting set of frequencies, they discovered, corresponded closely to the chromatic scale. In short, the building blocks of music are to be found in speech

Far from being abstract, music presents a strange analogue to the patterns created by the sounds of speech. “Music, like the visual arts, is rooted in our experience of the natural world,” says Schwartz. “It emulates our sound environment in the way that visual arts emulate the visual environment. ” In music, we hear the echo of our basic sound-making instrument- the vocal tract. The explanation for human music is simple; still than Pythagoras’s mathematical equations. We like the sounds that are familiar to us- specifically, we like sounds that remind us of us.

This brings up some chicken-or-egg evolutionary questions. It may be that music imitates speech directly, the researchers say, in which case it would seem that language evolved first. It’s also conceivable that music came first and language is in effect an Imitation of a song – that in everyday speech we hit the musical notes we especially like. Alternately, it may be that music imitates the general products of the human sound-making system, which just happens to be mostly speech. “We can’t know this,” says Schwartz. “What we do know is that they both come from the same system, and it is this that shapes our preferences.”

D. Schwartz’s study also casts light on the long-running question of whether animals understand or appreciate music. Despite the apparent abundance of “music” in the natural world- birdsong, whale song, wolf howls, synchronized chimpanzee hooting previous studies have found that many laboratory animals don’t show a great affinity for the human variety of music-making. Marc Hauser and Josh McDermott of Harvard argued in the July issue of Nature Neuroscience that animals don’t create or perceive music the way we do. The act that laboratory monkeys can show recognition of human tunes is evidence, they say, of shared general features of the auditory system, not any specific chimpanzee musical ability. As for birds, those most musical beasts, they generally recognize their own tunes – a narrow repertoire – but don’t generate novel melodies as we do. There are no avian Mozarts.

But what’s been played to the animals, Schwartz notes, is human music. If animals evolve preferences for sound as we do – based upon the soundscape in which they live – then their “music” would be fundamentally different from ours. In the same way, our scales derive from human utterances, a cat’s idea of a good tune would derive from yowls and meows. To demonstrate that animals don’t appreciate sounds the way we do, we’d need evidence that they don’t respond to “music” constructed from their own sound environment.

E. No matter how the connection between language and music is parsed, what is apparent is that our sense of music, even our love for it, is as deeply rooted in our biology and in our brains as language is. This is most obvious with babies, says Sandra Trehub at the University of Toronto, who also published a paper in the Nature Neuroscience special issue.

For babies, music and speech are on a continuum. Mothers use musical speech to “regulate infants’ emotional states.” Trehub says. Regardless of what language they speak, the voice all mothers use with babies is the same: “something between speech and song.” This kind of communication “puts the baby in a trance-like state, which may proceed to sleep or extended periods of rapture.” So if the babies of the world could understand the latest research on language and music, they probably

wouldn't be very surprised. The upshot, says Trehub, is that music maybe even more of a necessity than we realize.

Questions 32-38

Look at the following people and list of statements below.

Match each person with the correct statement.

Write the correct letter A-G in boxes 32-38 on your answer sheet.

List of statements

A. Music exists outside of the world in which it is created

B. Music has a common feature though cultural influences affect

C. Humans need music

D. Music priority connects to the disordered sound around

E. Discovery of mathematical musical foundation

F. Music is not treated equally well compared with a language

G. Humans and monkeys have similar traits in perceiving sound

32. Steven Pinker

33. Musicologists

34. Greek philosopher Pythagoras

35. Schwartz, Howe, and Purves

36. Marc Hauser and Josh McDermott

37. Charles Rosen

38. Sandra Trehub

Questions 39-40

Choose the correct letter A, B, C or D

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

39. Why was the study of animal music uncertain?

A. Animals don't have the same auditory system as humans.

B. Experiments on animal's music are limited.

C. tunes are impossible for the animal to make up.

D. Animals don't have the spontaneous ability for the tests.

40. What is the main subject of this passage?

A. Language and psychology.

B. Music formation.

C. Role of music in human society.

D. Music experiments for animals.

Answers

Reading Passage 1

1. B

2. B

3. D

4. D

5. B

6. ferry

7. Bicycle

8. Ceiling fan/fan

9. Air conditioner

10. Mosquitos/Mosquito

11. A

12. C

13. E

Reading Passage 2

14. NOT GIVEN

15. FALSE

16. TRUE

17. FALSE

18. FALSE

19. F

20. B

21. G

22. C

23. H

24. B

25. D

26. A

Reading Passage 3

27. vi

28. iv

29. ii

30. v

31. vii

32. F

33. B

34. E

35. D

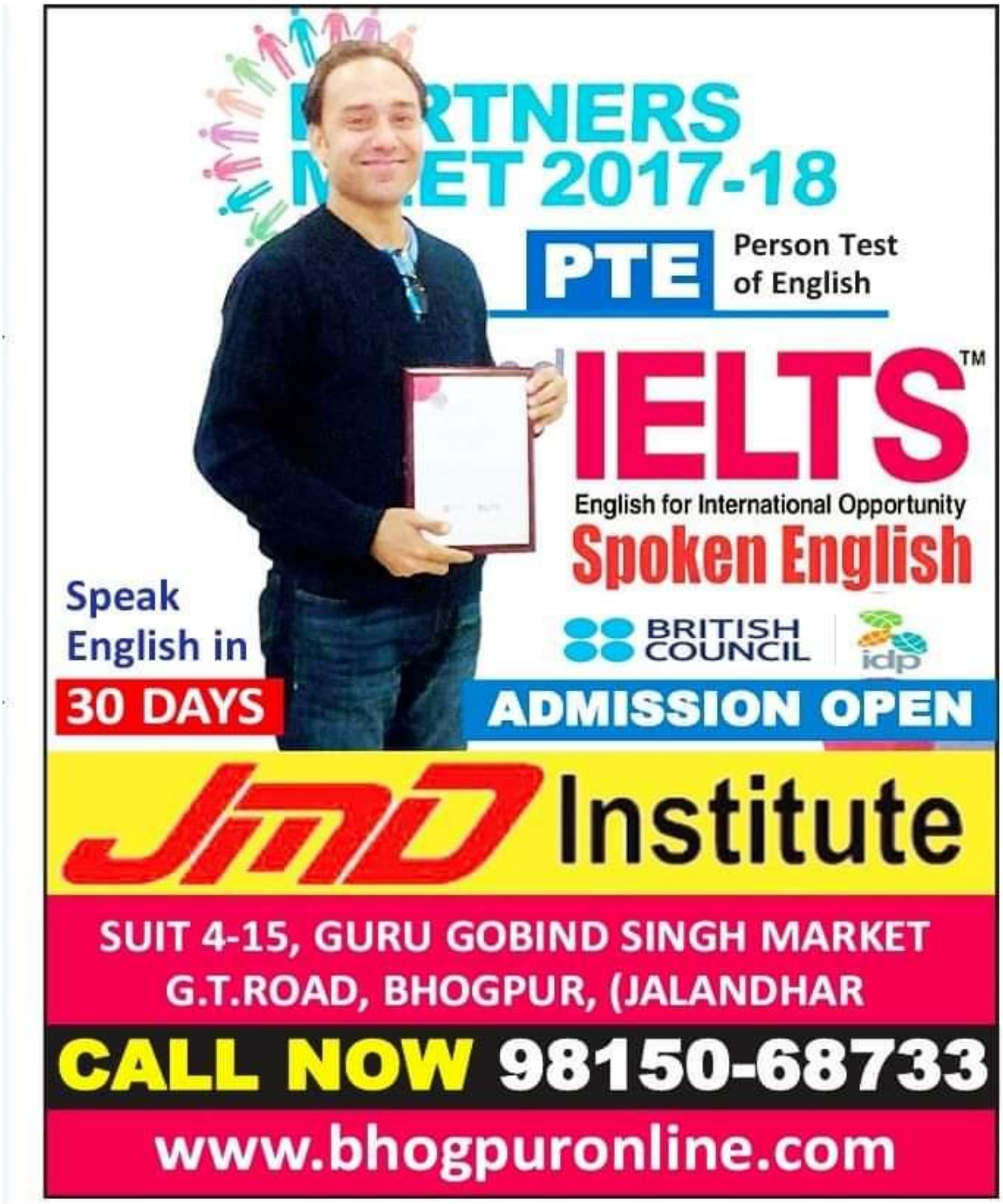
36. G

37. A

38. C

39. B

40. C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