

朗阁雅思阅读考题预测

Passage 1

Pollution! In the Bay

A

Pouring water into the sea sounds harmless enough. But in Florida Bay, a large and shallow section of the Gulf of Mexico that lies between the southern end of the Everglades and the 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 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 Zieman, 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 Kruczynski 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 \$650 million. 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 A-J, 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 Significance of finding a specific reason in controversy
- 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 information 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 | Bill Kruczynski |
| B | Brian Lapointe |
| C | Joseph Ziemann |

- 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 1 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.

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Answer keys:

- 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



Brunel: 'The Practical Prophet'**A**

In the frontispiece of his book on Brunei, Peter Hay quotes from Nicholson's British Encyclopaedia of 1909 as follows: 'Engineers are extremely necessary for these purposes; wherefore it is requisite that, besides being ingenious, they should be brave in proportion.' His father, Sir Marc Isambard Brunei (1769-1849), was himself a famous engineer, of French parents. He eventually settled in Britain and married Sophia Kingdom, an English woman whom he had known in France in earlier days. Their only son Isambard was born on 9th April, 1806. He was sent to France at the age of 14 to study mathematics and science and was only 16 when he returned to England to work with his father. Sir Marc was then building his famous tunnel under the River Thames. Isambard was recuperating near Bristol from injuries received in a tunnel cave-in when he became involved with his own first major project.

The Suspension Bridge on the Avon Gorge**B**

The span of Brunei's bridge was over 700ft, longer than any existing when it was designed, and the height above water about 245ft. The technical challenges of this engineering project were immense, and Brunei dealt with them with his usual thoroughness and ingenuity. But it is also interesting to look at how Brunei handled the other side of the engineering business: selling his ideas. Two design competitions were held, and the great bridge designer Thomas Telford was the committee's expert. Brunei presented four designs. He went beyond technicalities to include arguments based on, among other things, the grace of his tower design. Unfortunately, he only got so far as to put up the end piers in his lifetime. The Clifton Suspension Bridge was completed in his honour by his engineering friends in 1864, and is still in use.

The Great Western Railway**C**

While Brunei was still in Bristol, and with the Avon Bridge project stopped or going slowly, he became aware that the civic authorities saw the need for a railway link to London. Railway location was controversial, since private landowners and towns had to be dealt with. Mainly, the landed gentry did not want a messy, noisy railway anywhere near them. The Duke of Wellington (of Waterloo fame) was certainly against it. Again Brunei showed great skill in presenting his arguments to the various committees and individuals. Brunei built his railway with a broad gauge (7ft) instead of the standard 4ft 8in, which had been used for lines already installed. There is no doubt that the broad gauge gave superior ride and stability, but it was fighting a standard. In this he was also up against his professional rival (but personal friend) Robert Stephenson and Robert's father, George Stephenson. After much argument, the government settled the matter in 1846 by requiring any new lines to be standard gauge.

Atmospheric railway:**D**

Brunei's ready acceptance of new ideas overpowered good engineering judgment (at least in hindsight) when he advocated the installation of an 'atmospheric railway' in South Devon. It had the great attraction of doing away with the locomotive, and potentially could deal with steeper gradients. The system consisted of a 15in-diameter pipe, laid between the rail lines, with a slit cut along the top. A piston fitted into the pipe, and was connected

to the driving railcar above by an arm. The pipe ahead of the piston was then evacuated of air by pumps stationed about two miles apart along the line. The atmospheric pressure then drove the train. Since this connecting arm had to run along the slit, it had to be opened through a flap as the train progressed, but closed airtight behind it. Materials were not up to it, and this arrangement was troublesome and expensive to keep in repair. After a year of frustration, the system was abandoned. Brunei admitted his failure and took responsibility. He also took no fee for his work, setting a good professional example.

Brunei's ships:

E

The idea of using steam to power ships to cross the ocean appealed to Brunei. When his GWR company directors complained about the great length of their railway (it was only about 100 miles), Isambard jokingly suggested that they could even make it longer - why not go all the way to New York, and call the link the Great Western. The "Great Western" was the first steamship to engage in transatlantic service. Brunei formed the Great Western Steamship Company, and construction started on the ship in Bristol in 1836. Built of wood and 236ft long, the Great Western was launched in 1837, and powered by sail and paddlewheels. The first trip to New York took just 15 days, and 14 days to return. This was a great success; a one way trip under sail would take more than a month. The Great Western was the first steamship to engage in transatlantic service and made 74 crossings to New York.

F

Having done so well with the Great Western, Brunei immediately got to work on an even bigger ship. The Great Britain was made of iron and also built in Bristol, 322ft in length. The initial design was for the ship to be driven by paddle wheels, but Brunei had seen one of the first propeller driven ships to arrive in Britain, and he abandoned his plans for paddle wheel propulsion. The ship was launched in 1843 and was the first screw-driven iron ship to cross the Atlantic. The Great Britain ran aground early in its career, but was repaired, sold, and sailed for years to Australia, and other parts of the world, setting the standard for ocean travel. In the early 1970s the old ship was rescued from the Falklands, and is now under restoration in Bristol.

G

Conventional wisdom in Brunei's day was that steamships could not carry enough coal to make long ocean voyages. But he correctly figured out that this was a case where size mattered. He set out to design the biggest ship ever, five times larger than any ship built up to that time. Big enough to carry fuel to get to Australia without refuelling, in addition it would carry 4,000 passengers. The Great Eastern was 692ft long, with a displacement of about 32,000 tons. Construction began in 1854 on the Thames at Millwall. Brunei had chosen John Scott Russell to build the ship. He was a well-established engineer and naval architect, but the contract did not go well. Among other things, Scott Russell was very low in his estimates and money was soon a problem. Construction came to a standstill in 1856 and Brunei himself had to take over the work. But Brunei was nothing if not determined, and by September, 1859, after a delayed and problem ridden launch, the Great Eastern was ready for the maiden voyage. Brunei was too sick to go, but it was just as well, because only a few hours out there was an explosion in the engine room which would have destroyed a lesser ship. Brunei died within a week or so of the accident. The great ship never carried 4,000 passengers (among other things, the Suez Canal came

along) and although it made several transatlantic crossings, it was not a financial success. Shortly after the Great Eastern began working life, the American entrepreneur Cyrus Field and his backers were looking for a ship big enough to carry 5,000 tons of telegraphic cable, which was to be laid on the ocean floor from Ireland to Newfoundland. Although Brunei did not have it in mind, the Great Eastern was an excellent vessel for this work. On July 27, 1866, it successfully completed the connection and a hundred years of transatlantic communication by cable began. The ship continued this career for several years, used for laying cables in many parts of the world.



Questions 1-6

Use the information in the passage to match the project Brunel did (listed A-G) with opinions or deeds below. Write the appropriate letters A-G on your answer sheet.

- A River Thames Tunnel
- B Clifton Suspension Bridge
- C Atmospheric Railway
- D Great Britain
- E The Great Western
- F Great Western Railway
- G The Great Eastern

- 1 The project of construction that I.K. Brunel was not responsible for.
- 2 The project had stopped due to inconvenience and high maintaining cost.
- 3 The project was honored to yet not completed by Brunel himself.
- 4 The project had budget problem although built by a famous engineer.
- 5 Serious problem happened and delayed repeatedly.
- 6 The first one to cross Atlantic Ocean in mankind history.

Questions 7-9

The reading Passage has seven paragraphs A-G.

Which paragraph contains the following information?

Write the correct letter A-G, in boxes 7-9 on your answer sheet

NB You may use any letter more than once.

- 7 There was a great ship setting the criteria for journey of ocean.
- 8 An ambitious project which seemed to be applied in an unplanned service later.
- 9 Brunel showed his talent of inter-personal skills with landlords and finally project had been gone through.

Questions 10-13

Complete the following summary of the paragraphs of Reading Passage 1 using no more than two words from the Reading Passage for each answer.

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

The Great Eastern was specially designed with a 10..... for carrying more fuels and was to take long voyage to 11.....; However due to physical condition, Brunel couldn't be able to go with maiden voyage. Actually The Great Eastern was unprofitable and the great ship never crossed 12..... But soon after there was an ironic opportunity for the Great Eastern which was used to carry and to lay huge 13..... in Atlantic Ocean floor.

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Answer Keys:

- 1 A
- 2 C
- 3 B
- 4 G
- 5 G
- 6 E
- 7 F
- 8 G
- 9 C
- 10 the biggest/bigger/larger (size) ship
- 11 Australia
- 12 Suez canal
- 13 telegraphic cable/cables



Passage 2**Antarctica – in from the cold?****A**

A little over a century ago, men of the ilk of Scott, Shackleton and Mawson battled against Antarctica's blizzards, cold and deprivation. In the name of Empire and in an age of heroic deeds they created an image of Antarctica that was to last well into the 20th century - an image of remoteness, hardship, bleakness and isolation that was the province of only the most courageous of men. The image was one of a place removed from everyday reality, of a place with no apparent value to anyone.

B

As we enter the 21st century, our perception of Antarctica has changed. Although physically Antarctica is no closer and probably no warmer, and to spend time there still demands a dedication not seen in ordinary life, the continent and its surrounding ocean are increasingly seen to an integral part of Planet Earth, and a key component in the Earth System. Is this because the world seems a little smaller these days, struck by TV and tourism, or is it because Antarctica really does occupy a central spot on Earth's mantle? Scientific research during the past half century has revealed - and continues to reveal - that Antarctica's great mass and low temperature exert a major influence on climate and ocean circulation, factors which influence the lives of millions of people all over the globe.

C

Antarctica was not always cold. The slow break-up of the super-continent Gondwana with the northward movements of Africa, South America, India and Australia eventually created enough space around Antarctica for the development of an Antarctic Circumpolar Current (ACC), that flowed from west to east under the influence of the prevailing westerly winds. Antarctica cooled, its vegetation perished, glaciation began and the continent took on its present-day appearance. Today the ice that overlies the bedrock is up to 4km thick, and surface temperatures as low as - 89.2deg C have been recorded. The icy blast that flows over the ice cap and out to sea - the so-called katabatic wind - can reach 300 km/hr, creating fearsome wind-chill effects.

D

Out of this extreme environment come some powerful forces that reverberate around the world. The Earth's rotation, coupled to the generation of cells of low pressure off the Antarctic coast, would allow Astronauts a view of Antarctica that is as beautiful as it is awesome. Spinning away to the northeast, the cells grow and deepen, whipping up the Southern Ocean into the mountainous seas so respected by mariners. Recent work is showing that the temperature of the ocean may be a better predictor of rainfall in Australia than is the pressure difference between Darwin and Tahiti - the Southern Oscillation Index. By receiving more accurate predictions, graziers in northern Queensland are able to avoid overstocking in years when rainfall will be poor. Not only does this limit their losses but it prevents serious pasture degradation that may take decades to repair. CSIRO is developing this as a prototype forecasting system, but we can confidently predict that as we know more about the Antarctic and Southern Ocean we will be able to enhance and extend our predictive ability.

E

The ocean's surface temperature results from the interplay between deep-water temperature, air temperature and ice. Each winter between 4 and 19 million square km of sea ice form, locking up huge quantities of heat close to the continent. Only now can we start to unravel the influence of sea ice on the weather that is experienced in southern

Australia. But in another way the extent of sea ice extends its influence far beyond Antarctica. Antarctic krill - the small shrimp-like crustaceans that are the staple diet for baleen whales, penguins, some seals, flighted sea birds and many fish - breed well in years when sea ice is extensive and poorly when it is not. Many species of baleen whales and flighted sea birds migrate between the hemispheres and when the krill are less abundant they do not thrive.

F

The circulatory system of the world's oceans is like a huge conveyor belt, moving water and dissolved minerals and nutrients from one hemisphere to the other, and from the ocean's abyssal depths to the surface. The ACC is the longest current in the world, and has the largest flow. Through it, the deep flows of the Atlantic, Indian and Pacific Oceans are joined to form part of a single global thermohaline circulation. During winter, the howling katabatics sometimes scour the ice off patches of the sea's surface leaving large ice-locked lagoons, or 'polynyas'. Recent research has shown that as fresh sea ice forms, it is continuously stripped away by the wind and may be blown up to 90km in a single day. Since only fresh water freezes into ice, the water that remains becomes increasingly salty and dense, sinking until it spills over the continental shelf. Cold water carries more oxygen than warm water, so when it rises, well into the northern hemisphere, it reoxygenates and revitalises the ocean. The state of the northern oceans, and their biological productivity, owe much to what happens in the Antarctic.

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Questions 14-18

The reading Passage has seven paragraphs A-F.

Which paragraph contains the following information?

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

- 14 The example of research on weather prediction on agriculture
- 15 Antarctic sea ice brings life back to the world oceans' vitality.
- 16 A food chain that influence the animals living pattern based on Antarctic fresh sea ice
- 17 The explanation of how atmosphere pressure above Antarctica can impose effect on global climate change
- 18 Antarctica was once thought to be a forgotten and insignificant continent

Questions 19-21

Please match the natural phenomenon with correct determined factor.

Choose the correct answer from the box. Write the correct letter A-F, in boxes 19-21 on your answer sheet.

- | | |
|---|-------------------------------------|
| A | Antarctic Circumpolar Current (ACC) |
| B | katabatic winds |
| C | rainfall |
| D | temperature |
| E | glaciers |
| F | pressure |

- 19 Globally, mass Antarctica's size and influence the climate change
- 20 contributory to western wind
- 21 Southern Oscillation Index based on air pressure can predict in Australia

Questions 22-26

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

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

- 22 In the paragraph B, the author want to tell which of the following truth about Antarctic?
 - A To show Antarctica has been a central topic of global warming in Mass media
 - B To illustrate its huge sea ice brings food to million lives to places in the world
 - C To show it is the heart and its significance to the global climate and current
 - D To illustrate it locates in the central spot on Earth geographically
- 23 Why do Australian farmers keep an eye on the Antarctic ocean temperature?
 - A Help farmers reduce their economic or ecological losses
 - B Retrieve grassland decreased in the overgrazing process
 - C Prevent animal from dying
 - D A cell provides fertilizer for the grassland
- 24 What is the final effect of katabatic winds?
 - A Increase the moving speed of ocean current
 - B Increase salt level near ocean surface
 - C Bring fresh ice into southern oceans
 - D Pile up the mountainous ice cap respected by mariners
- 25 The break of the continental shelf is due to the

- A Salt and density increase
 - B Salt and density decrease
 - C global warming resulting a rising temperature
 - D fresh ice melting into ocean water
- 26 The decrease in number of Whales and seabirds is due to
- A killers whales are more active around
 - B Sea birds are affected by high sea level salty
 - C less sea ice reduces productivity of food source
 - D seals fail to reproduce babies



Answer keys:

- 14 D
- 15 F
- 16 E
- 17 C
- 18 A
- 19 D
- 20 A
- 21 C
- 22 C
- 23 A
- 24 C
- 25 C
- 26 C



How war debris could cause cancer

A

Could the mystery over how depleted uranium might cause genetic damage be closer to being solved? It may be, if a controversial claim by two researchers is right. They say that minute quantities of the material lodged in the body may kick out energetic electrons that mimic the effect of beta radiation. This, they argue, could explain how residues of depleted uranium scattered across former war zones could be increasing the risk of cancers and other problems among soldiers and local people.

B

Depleted uranium is highly valued by the military, who use it in the tips of armour-piercing weapons. The material's high density and self-sharpening properties help it to penetrate the armour of enemy tanks and bunkers. Its use in conflicts has risen sharply in recent years. The UN Environment Programme (UNEP) estimates that shells containing 1700 tonnes of the material were fired during the 2003 Iraq war. Some researchers and campaigners are convinced that depleted uranium left in the environment by spent munitions causes cancer, birth defects and other ill effects in people exposed to it. Governments and the military disagree, and point out that there is no conclusive epidemiological evidence for this. And while they acknowledge that the material is weakly radioactive, they say this effect is too small to explain the genetic damage at the levels seen in war veterans and civilians.

C

Organisations such as the UK's Royal Society, the US Department of Veterans Affairs and UNEP have called for more comprehensive epidemiological studies to clarify the link between depleted uranium and any ill effects. Meanwhile, various test-tube and animal studies have suggested that depleted uranium may increase the risk of cancer, according to a review of the scientific literature published in May 2008 by the US National Research Council. The authors of the NRC report argue that more long-term and quantitative research is needed on the effects of uranium's chemical toxicity. They say the science seems to support the theory that genetic damage might be occurring because uranium's chemical toxicity and weak radioactivity could somehow reinforce each other, though no one knows what the mechanism for this might be.

D

Now two researchers, Chris Busby and Ewald Schnug, have a new theory that they say explains how depleted uranium could cause genetic damage. Their theory invokes a well-known process called the photoelectric effect. This is the main mechanism by which gamma photons with energies of about 100 kiloelectronvolts (keV) or less are blocked by matter: the photon transfers its energy to an electron in the atom's electron cloud, which is ejected into the surroundings. An atom's ability to stop photons by this mechanism depends on the fourth power of its atomic number - the number of protons in its nucleus - so heavy elements are far better at intercepting gamma radiation and X-rays than light elements. This means that uranium could be especially effective at capturing photons and kicking out damaging photoelectrons. With an atomic number of 92, uranium blocks low-energy gamma photons over 450 times as effectively as the lighter element calcium, for instance.

E

Busby and Schnug say that previous risk models have ignored this well-established physical effect. They claim that depleted uranium could be kicking out photoelectrons in the body's most vulnerable spots. Various studies have shown that dissolved uranium - ingested in food or water, for example - is liable to attach to DNA strands within cells,

because uranium binds strongly to DNA phosphate. "Photoelectrons from uranium are therefore likely to be emitted precisely where they will cause most damage to genetic material," says Busby.

F

Busby and Schnug base their claim on calculations of the photoelectrons that would be produced by the interaction between normal background levels of gamma radiation and uranium in the body. "Our detailed calculations indicate that the phantom photoelectrons are the predominant effect by far for uranium genome toxicity, and that uranium could be 1500 times as powerful as an emitter of photoelectrons than as an alpha emitter." Their computer modelling results are described in a peer-reviewed paper to be published in this month by the IPNSS in a book called Loads and Fate of Fertiliser Derived Uranium.

G

Hans-Georg Menzel, who chairs the International Commission on Radiological Protection's committee on radiation doses, acknowledges that the theory should be considered, but he doubts that it will prove significant. He suspects that under normal background radiation the effect is too weak to inflict many of the "double hits" of energy that are known to be most damaging to cells. "It is very unlikely that individual cells would be subject to two or more closely spaced photoelectron impacts under normal background gamma irradiation," he says. Despite his doubts, Menzel raised the issue last week with his committee in St Petersburg, Russia, and says that several colleagues "intended to collect relevant data and perform calculations to check whether there was any possibility of a real effect in living tissues". Organisations in the UK, including the Ministry of Defence and the Health Protection Agency, say they have no plans to investigate Busby's hypothesis.

H

Radiation biophysicist Mark Hill of the University of Oxford would like to see a fuller investigation, though he suggests this might show that the photoelectric effect is not as powerful as Busby claims. "We really need more detailed calculations and dose estimates for realistic situations with and without uranium present," he says. Hill's doubts centre on an effect called Compton scattering, which he believes needs to be factored into any calculations. With Compton scattering, uranium is only 4.5 times as effective as calcium at stopping gamma photons, so Hill says that taking it into account would reduce the relative importance of uranium as an emitter of secondary electrons. If he is right, this would dilute the mechanism proposed by Busby and Schnug.

The arguments over depleted uranium are likely to continue, whatever the outcome of these experiments. Whether Busby's theory holds up or not remains to be seen, but investigating it can only help to clear up some of the doubts about this mysterious substance.

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Questions 14-18

The reading Passage has nine paragraphs A-I.

Which paragraph contains the following information?

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

NB you may use any letter more than once

- 14 a famous process is given relating to the new theory.
- 15 a person who acknowledges but suspects the theory.
- 16 the explanation of damage to DNA.
- 17 a debatable and short explanation to the way creating the problems of soldiers.
- 18 Busby's hypothesis is not in the investigation plans of organisations.

Questions 19-22

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

In boxes 19-22 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

- 19 all of people believe that depleted uranium is harmful to people's health.
- 20 heavier elements can perform better at preventing X-rays and gamma radiation.
- 21 by particular calculations, it is known that the main effect of uranium genome toxicity is phantom photoelectrons.
- 22 most of scientists support Mark Hill's opinion.

Questions 23-26

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 23-26 on your answer sheet.

- 23 _____ attaches importance to depleted uranium due to its 24 _____ and 25 _____ features, which are helpful in the war. However, it has ill effects in people, and then causes organisations' appeal to do more relative studies. According to some scientists, we should do research about the impact of uranium's 26 _____ which may be enhanced with weak radioactivity.

Answer keys:

- 14 D
- 15 G
- 16 E
- 17 A
- 18 G
- 19 FALSE
- 20 TRUE
- 21 TRUE
- 22 NOT GIVEN
- 23 The military
- 24 high density
- 25 self-sharpening
- 26 chemical toxicity



Passage 3**Learning lessons from the past****A**

Many past societies collapsed or vanished, leaving behind monumental ruins such as those that the poet Shelley imagined in his sonnet, Ozymandias. By collapse, I mean a drastic decrease in human population size and/or political/economic/social complexity, over a considerable area, for an extended time. By those standards, most people would consider the following past societies to have been famous victims of full-fledged collapses rather than of just minor declines: the Anasazi and Cahokia within the boundaries of the modern US, the Maya cities in Central America, Moche and Tiwanaku societies in South America, Norse Greenland, Mycenaean Greece and Minoan Crete in Europe, Great Zimbabwe in Africa, Angkor Wat and the Harappan Indus Valley cities in Asia, and Easter Island in the Pacific Ocean.

B

The monumental ruins left behind by those past societies hold a fascination for all of us. We marvel at them when as children we first learn of them through pictures. When we grow up, many of us plan vacations in order to experience them at first hand. We feel drawn to their often spectacular and haunting beauty, and also to the mysteries that they pose. The scales of the ruins testify to the former wealth and power of their builders. Yet these builders vanished, abandoning the great structures that they had created at such effort. How could a society that was once so mighty end up collapsing?

C

It has long been suspected that many of those mysterious abandonments were at least partly triggered by ecological problems: people inadvertently destroying the environmental resources on which their societies depended. This suspicion of unintended ecological suicide (ecocide) has been confirmed by discoveries made in recent decades by archaeologists, climatologists, historians, paleontologists, and palynologists (pollen scientists). The processes through which past societies have undermined themselves by damaging their environments fall into eight categories, whose relative importance differs from case to case: deforestation and habitat destruction, soil problems, water management problems, overhunting, overfishing, effects of introduced species on native species, human population growth, and increased impact of people.

D

Those past collapses tended to follow somewhat similar courses constituting variations on a theme. Writers find it tempting to draw analogies between the course of human societies and the course of individual human lives - to talk of a society's birth, growth, peak, old age and eventual death. But that metaphor proves erroneous for many past societies: they declined rapidly after reaching peak numbers and power, and those rapid declines must have come as a surprise and shock to their citizens. Obviously, too, this trajectory is not one that all past societies followed unvaryingly to completion: different societies collapsed to different degrees and in somewhat different ways, while many societies did not collapse at all.

E

Today many people feel that environmental problems overshadow all the other threats to global civilisation. These environmental problems include the same eight that undermined past societies, plus four new ones: human-caused climate change, build up of toxic chemicals in the environment, energy shortages, and full human utilisation of the Earth's photosynthetic capacity. But the seriousness of these current environmental problems is vigorously debated. Are the risks greatly exaggerated, or conversely are they

underestimated? Will modern technology solve our problems, or is it creating new problems faster than it solves old ones? When we deplete one resource (e.g. wood, oil, or ocean fish), can we count on being able to substitute some new resource (e.g. plastics, wind and solar energy, or farmed fish)? Isn't the rate of human population growth declining, such that we're already on course for the world's population to level off at some manageable number of people?

F

Questions like this illustrate why those famous collapses of past civilisations have taken on more meaning than just that of a romantic mystery. Perhaps there are some practical lessons that we could learn from all those past collapses. But there are also differences between the modern world and its problems, and those past societies and their problems. We shouldn't be so naive as to think that study of the past will yield simple solutions, directly transferable to our societies today. We differ from past societies in some respects that put us at lower risk than them; some of those respects often mentioned include our powerful technology (i.e. its beneficial effects), globalisation, modern medicine, and greater knowledge of past societies and of distant modern societies. We also differ from past societies in some respects that put us at greater risk than them: again, our potent technology (i.e. its unintended destructive effects), globalisation (such that now a problem in one part of the world affects all the rest), the dependence of millions of us on modern medicine for our survival, and our much larger human population. Perhaps we can still learn from the past, but only if we think carefully about its lessons.

The logo of the Research Academy for Foreign Language Examinations (RAFLE) is a circular emblem. It features the acronym 'RAFLE' in the center, with 'Research Academy for Foreign Language Examinations' written around the perimeter. Below the acronym, it says 'Since 1999'.

Since 1999

Questions 27-29

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

27 When the writer describes the impact of monumental ruins today, he emphasizes

- A the income they generate from tourism.
- B the area of land they occupy.
- C their archaeological value.
- D their romantic appeal.

28 Recent findings concerning vanished civilisations

- A have overturned long-held beliefs.
- B caused controversy amongst scientists.
- C come from a variety of disciplines.
- D identified one main cause of environmental damage.

29 What does the writer say about ways in which former societies collapsed?

- A The pace of decline was usually similar.
- B The likelihood of collapse would have been foreseeable.
- C Deterioration invariably led to total collapse.
- D Individual citizens could sometimes influence the course of events.

Questions 30-34

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

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

30 It is widely believed that environmental problems represent the main danger faced by the modern world.

31 The accumulation of poisonous substances is a relatively modern problem.

32 There is general agreement that the threats posed by environmental problems are very serious.

33 Some past societies resembled present-day societies more closely than others.

34 We should be careful when drawing comparisons between past and present.

Questions 35-39

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

Write the correct letter, A-F.

- A is not necessarily valid.
- B provides grounds for an optimistic outlook.
- C exists in the form of physical structures.
- D is potentially both positive and negative.
- E will not provide direct solutions for present problems.
- F is greater now than in the past.

35 Evidence of the greatness of some former civilisations

36 The parallel between an individual's life and the life of a society

37 The number of environmental problems that societies face

38 The power of technology

39 A consideration of historical events and trends

Question 40

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

- 40 What is the main argument of Reading Passage 3?
- A There are differences as well as similarities between past and present societies.
 - B More should be done to preserve the physical remains of earlier civilisations.
 - C Some historical accounts of great civilisations are inaccurate.
 - D Modern societies are dependent on each other for their continuing survival.



Answer keys:

- 27 D
- 28 C
- 29 A
- 30 YES
- 31 YES
- 32 NO
- 33 NOT GIVEN
- 34 YES
- 35 C
- 36 A
- 37 F
- 38 D
- 39 E
- 40 A



Communicating Conflict!

A

As far back as Hippocrates' time (460-370 B.C.) people have tried to understand other people by characterizing them according to personality type or temperament. Hippocrates believed there were four different body fluids that influenced four basic types of temperament. His work was further developed 500 years later by Galen. These days there are any number of self-assessment tools that relate to the basic descriptions developed by Galen, although we no longer believe the source to be the types of body fluid that dominate our systems.

B

The values in self-assessments that help determine personality style. Learning styles, communication styles, conflict-handling styles, or other aspects of individuals is that they help depersonalize conflict in interpersonal relationships. The depersonalization occurs when you realize that others aren't trying to be difficult, but they need different or more information than you do. They're not intending to be rude: they are so focused on the task they forget about greeting people. They would like to work faster but not at the risk of damaging the relationships needed to get the job done. They understand there is a job to do. But it can only be done right with the appropriate information, which takes time to collect. When used appropriately, understanding communication styles can help resolve conflict on teams. Very rarely are conflicts true personality issues. Usually they are issues of style, information needs, or focus.

C

Hippocrates and later Galen determined there were four basic temperaments: sanguine, phlegmatic, melancholic and choleric. These descriptions were developed centuries ago and are still somewhat apt, although you could update the wording. In today's world, they translate into the four fairly common communication styles described below:

D

The sanguine person would be the expressive or spirited style of communication. These people speak in pictures. They invest a lot of emotion and energy in their communication and often speak quickly. Putting their whole body into it. They are easily sidetracked onto a story that may or may not illustrate the point they are trying to make. Because of their enthusiasm, they are great team motivators. They are concerned about people and relationships. Their high levels of energy can come on strong at times and their focus is usually on the bigger picture, which means they sometimes miss the details or the proper order of things. These people find conflict or differences of opinion invigorating and love to engage in a spirited discussion. They love change and are constantly looking for new and exciting adventures.

E

The phlegmatic person - cool and persevering - translates into the technical or systematic communication style. This style of communication is focused on facts and technical details. Phlegmatic people have an orderly, methodical way of approaching tasks, and their focus is very much on the task, not on the people, emotions, or concerns that the task may evoke. The focus is also more on the details necessary to accomplish a task. Sometimes the details overwhelm the big picture and focus needs to be brought back to the context of the task. People with this style think the facts should speak for themselves, and they are not as comfortable with conflict. They need time to adapt to change and need to understand both the logic of it and the steps involved.

F

The melancholic person who is softhearted and oriented toward doing things for others

translates into the considerate or sympathetic communication style. A person with this communication style is focused on people and relationships. They are good listeners and do things for other people - sometimes to the detriment of getting things done for themselves. They want to solicit everyone's opinion and make sure everyone is comfortable with whatever is required to get the job done. At times this focus on others can distract from the task at hand. Because they are so concerned with the needs of others and smoothing over issues, they do not like conflict. They believe that change threatens the status quo and tends to make people feel uneasy, so people with this communication style, like phlegmatic people, need time to consider the changes in order to adapt to them.

G

The choleric temperament translates into the bold or direct style of communication. People with this style are brief in their communication - the fewer words the better. They are big picture thinkers and love to be involved in many things at once. They are focused on tasks and outcomes and often forget that the people involved in carrying out the tasks have needs. They don't do detail work easily and as a result can often underestimate how much time it takes to achieve the task. Because they are so direct, they often seem forceful and can be very intimidating to others. They usually would welcome someone challenging them. But most other styles are afraid to do so. They also thrive on change, the more the better.

H

A well-functioning team should have all of these communication styles for true effectiveness. All teams need to focus on the task, and they need to take care of relationships in order to achieve those tasks. They need the big picture perspective or the context of their work, and they need the details to be identified and taken care of for success. We all have aspects of each style within us. Some of us can easily move from one style to another and adapt our style to the needs of the situation at hand - whether the focus is on tasks or relationships. For others, a dominant style is very evident, and it is more challenging to see the situation from the perspective of another style. The work environment can influence communication styles either by the type of work that is required or by the predominance of one style reflected in that environment. Some people use one style at work and another at home. The good news about communication styles is that we all have the ability to develop flexibility in our styles. The greater the flexibility we have, the more skilled we usually are at handling possible and actual conflicts. Usually it has to be relevant to us to do so, either because we think it is important or because there are incentives in our environment to encourage it. The key is that we have to want to become flexible with our communication style. As Henry Ford said, "Whether you think you can or you can't, you're right!"

Since 1999

Questions 27-34

Reading Passage 3 has eight sections A-H.

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

Write the correct number i-x in boxes 27-34 on your answer sheet.

List of Headings

- | | |
|------|--|
| i | Different personality types mentioned |
| ii | recommendation of combined styles for group |
| iii | Historical explanation of understanding personality |
| iv | A lively and positive attitude person depicted |
| v | A personality likes challenge and direct communication |
| vi | different characters illustrated |
| vii | Functions of understanding communication styles |
| viii | Cautious and considerable person cited |
| ix | Calm and Factual personality illustrated |
| x | Self-assessment determines one's temperament |

27 Section A

28 Section B

29 Section C

30 Section D

31 Section E

32 Section F

33 Section G

34 Section H

Questions 35-39

Do the following statements agree with the information given in Reading Passage 3. In boxes 35-39 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

35 it is believed that sanguine people do not like variety

36 Melancholic and phlegmatic people have similar characteristics

37 It is the sanguine personality that needed most in the workplace.

38 It is possible for someone to change type of personality.

39 work surrounding can affect which communication style is the most effective.

Question 40

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

Write your answers in box 40 on your answer sheet.

The author thinks self-assessment tools can be able to

A assist to develop one's personality in a certain scenario.

B help to understand colleagues and resolve problems

C improve relationship with boss of company

D change others behaviour and personality

Answer keys:

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

