(07－4月国際IB)

英語運用能力検査
English Language Skills Test

注　　意

1　問題は 1 から 3 までで，**8** ページにわたって印刷してあります。
2　検査時間は **60** 分です。
3　声を出して読んではいけません。
4　最初に 1 の**リスニングテスト**を行います。答えは各問の **A・B・C・D** のうちから，最も適切なものをそれぞれ一つずつ選び，**解答用紙の記号に○を付けなさい。**
5　**リーディングテスト**の答えは，**A・B・C・D** のうちから最も適切なものをそれぞれ一つずつ選び，**解答用紙の記号に○を付けなさい。**
6　**ライティングテスト**は，問題文の指示に従って，答えを解答用紙の解答欄に書きなさい。
7　**受検番号**を解答用紙の決められた欄に記入しなさい。
8　答えを直すときは，きれいに消してから，新しい答えを書きなさい。
9　試験終了後，**解答用紙だけを提出しなさい。**

Instructions

1　Answer all questions in sections 1 to 3. There are **eight** pages.
2　The examination duration is **60** minutes.
3　Do not read anything aloud.
4　**The Listening Test** 1 will begin first. Choose the best answer from **A, B, C** and **D**. **Circle the answer on your answer sheet.**
5　In **the Reading Test**, choose the best answer from **A, B, C** and **D**. **Circle the answer on the answer sheet.**
6　In **the Writing Test**, write your answer in the designated space on the answer sheet after carefully reading the instructions.
7　Write **your examinee number** in the designated space on the answer sheet.
8　If you change answers, erase the original answers neatly and write the new answers.
9　When the examination is finished, **submit only the answer sheet.**

1 Listening Test

Part 1 Dialogues

In this part, you will listen to two dialogues. The first dialogue has one question, and the second dialogue has two questions. The four choices will be read out after each question. The dialogues, the questions and the choices will be read out only ONCE.

Part 2 Passages

In this part, you will listen to two passages. The first passage has one question, and the second passage has two questions. The four choices will be read out after each question. The passages, the questions and the choices will be read out only ONCE.

2 Reading Test

Read the passages and choose the best answer for each question.

A

Dolphins have been declared the world's second most intelligent creatures after humans, with scientists suggesting they are so bright that they should be treated as 'non-human persons'.

Studies into dolphin behaviour have highlighted how similar their communications are to those of humans and that they are brighter than chimpanzees. These have been backed up by anatomical research showing that dolphin brains have many key features associated with high intelligence.

Dolphins have long been recognised as among the most intelligent of animals. Recently, a series of behavioural studies has suggested that dolphins, especially species such as the bottlenose, whose brains weigh about 5 lb, could even be brighter than chimps, which some studies have found can reach the intelligence levels of three-year-old children. The studies show how dolphins have distinct personalities, a strong sense of self and can think about the future.

It has also become clear that they are 'cultural' animals, meaning that new types of behaviour can quickly be picked up by one dolphin from another. In one study, Diana Reiss, professor of psychology at City University of New York, showed that bottlenose dolphins could recognise themselves in a mirror and use it to inspect various parts of their bodies, an ability that had been thought limited to humans and great apes. In another, she found that captive animals also had the ability to learn a rudimentary symbol-based language.

Other research has shown dolphins can solve difficult problems, while those living in the wild co-operate in ways that imply complex social structures and a high level of emotional sophistication. In one recent case, a dolphin rescued from the wild was taught to tail-walk while recuperating for three weeks in a dolphinarium in Australia. After she was released, scientists were astonished to see the trick spreading among wild dolphins who had learnt it from the former captive. There are many similar examples, such as the way dolphins living off Western Australia learnt to hold sponges over their snouts to protect themselves when searching for spiny fish on the ocean floor. Such observations, along with others showing, for example, how dolphins could co-operate with military precision to round up shoals of fish to eat, have prompted questions about the brain structures that must underlie them.

Size is only one factor. Researchers have found that brain size varies hugely from around 7 oz for smaller cetacean species such as the Ganges River dolphin to more than 19 lb for sperm whales, whose brains are the largest on the planet. Human brains, by contrast, range from 2 lb-4 lb, while a chimp's brain is about 12 oz. When it comes to intelligence, however, brain size is less important than its size relative to the body. What Marino and her colleagues found was that the cerebral cortex and neocortex of bottlenose dolphins were so large that "the anatomical ratios that assess cognitive capacity place it second only to the human brain". They also found that the brain cortex of dolphins such as the bottlenose had the same convoluted folds that are strongly linked with human intelligence. Such folds increase the volume

of the cortex and the ability of brain cells to interconnect with each other.

Marino and Reiss will present their findings at a conference in San Diego, California, next month, concluding that the new evidence about dolphin intelligence makes it morally repugnant to mistreat them. Thomas White, professor of ethics at Loyola Marymount University, Los Angeles, who has written a series of academic studies suggesting dolphins should have rights, will speak at the same conference. "The scientific research ... suggests that dolphins are 'non-human persons' who qualify for moral standing as individuals," he said.

Adapted from Els Van Geyte, Rhona Snelling
Reading for IELTS (Collins)

Questions

1. According to the passage, which statement is true about bottlenose dolphins?

A They understand how to use their reflection to examine themselves.
B They have the ability to learn an advanced symbol-based language.
C They are sometimes taught to rescue other dolphins.
D They can search for spiny fish by using their sponge-like snouts.

2. According to the passage, which statement is true?

A Both Ganges River dolphins and sperm whales have the largest brain size on the planet.
B The size of the brain relative to the body is strongly linked to intelligence.
C Bottlenose dolphins have a differently-structured brain cortex to humans'.
D Marino and Reiss suggest that dolphins should not be treated as individuals.

B

Our nearest star is the Sun. The Sun is a middle-sized star. It is bigger than some stars, but much smaller than others. Some stars, like Betelgeuse, are more than a thousand times bigger than our Sun. But we are lucky that our Sun is not too big, because it is not going to explode into a supernova.

The Sun is 149 million kilometres away, and it is very VERY hot indeed. No astronaut or spacecraft can get anywhere near the Sun, because it is just too hot.

The hottest fire that we usually use on the Earth is about 2,000℃. At a temperature like that, iron melts – that is how we make cars and ships and bridges. But that is much less hot than the temperature of the Sun. The surface of the Sun is about 6,000℃. But in the Sun's corona – the huge flames just above the surface – the temperature can be 2,000,000℃. And in the middle of the Sun the temperature is about 15,000,000℃! That is REALLY hot.

Why is the Sun so hot? What is happening inside it? Well, the Sun is made of just two things, really – hydrogen and helium. All the time, billions of times every second, tonnes and tonnes of hydrogen are turning into helium. Each time they do this, it is like a nuclear explosion. It is like a trillion nuclear bombs going off, every second. At the centre of the Sun, in fact, is an enormous, endless nuclear explosion.

So isn't the Sun dangerous? Well yes, it is – but luckily for us, it is also a very long way away. It is 149 million kilometres away – so its heat keeps us warm but does not burn us up. Light from the Sun, travelling at 300,000 kilometres a second, takes just over eight minutes to reach the Earth.

But the Sun does some very frightening things. Never look at the Sun through a telescope – the sunlight will burn your eyes. When scientists look at the Sun, they let the light go through a telescope onto a white wall, or into a computer.

The Sun does not explode, because it is so big – gravity holds it together. But there are enormous flames, called solar flares, above the surface of the Sun. Some of them are 15,000 kilometres high. These solar flares are made by storms on the surface of the Sun, and some of them are as big as the Earth.

Sometimes when there is a really big storm on the Sun, it can start terrible trouble here on the Earth. On 13 March 1989, for example, a cloud of hot gas a million kilometres long came from the Sun towards the Earth. When it came close to the Earth, a million homes lost electricity, and some were without electricity for eight days, in the middle of winter.

Luckily for us, this does not happen very often. Most of the time, the Earth's atmosphere protects us from this danger. But the Sun can change things on the Earth in other ways too. Thousands of years ago, when scientists in China were studying the Sun, they noticed some strange dark spots on the surface. Today we call them 'sunspots'. These sunspots are a little cooler than the rest of the Sun – 4,000℃ instead of 6,000℃.

Today, these sunspots come and go about every eleven years. But they seem to be important. Between 1645 and 1715 there were almost no sunspots, and during this time the Earth got really cold. In London, people held parties and even lit fires on the frozen River Thames. This was part of a time of colder temperatures called the Little Ice Age, which went from 1550 to 1850.

And there were other times, millions of years ago, when most of the Earth was covered by ice, many kilometres thick. These were the real Ice Ages. Scientists think that perhaps the sunspots had disappeared then too, and the Sun was cooler than it is today.

Our Sun was formed from a cloud of gas and dust floating in space. Slowly, over millions of years, gravity made the gas and dust come closer together. As it came together, it began to spin in a flat spiral shape, like water going out of a bath.

A round ball formed at the centre of the spiral. The ball was spinning too, and just like water going out of a bath, it spun faster near the centre. As the ball spun faster and faster, it grew bigger and bigger, and hotter and hotter. When it was really hot it started to shine, and this spinning ball of fire became a new star – the Sun.

Adapted from Tim Vicary *Space* (Oxford University Press)

Questions

1. According to the passage, which statement is true about the temperature of the Sun?

   A Even the hottest temperatures of the Sun would not melt iron.

   B The surface of the Sun is much hotter than the Sun's corona.

   C The temperature at the centre of the Sun is a million times hotter than at the surface of the Sun.

   D The Sun is extremely hot as hydrogen is converted to helium through endless powerful explosions.

2. According to the passage, which statement is **not** true about the features of the Sun?

   A The Sun's heat warms us up though it is 149 million kilometres away.

   B If you look at the Sun directly through a telescope, you will injure your eyes.

   C There is a risk that the Sun will explode due to the lack of gravity.

   D Hot gas from the Sun can cause damage to homes and electricity grids.

3. According to the passage, which statement is true about sunspots?

   A Some dark spots were found on the surface of the Earth by Chinese scientists.

   B Sunspots are 2,000℃ cooler than the surface of the Sun.

   C Every spot on the surface of the Sun can be observed at any time.

   D Numerous sunspots caused the Little Ice Age in London.

4. According to the passage, which statement is true about the formation of the Sun?

   A Gravity stopped a cloud of gas and dust from coming closer together.

   B A spherical shape was formed at the base of a spiral of gas.

   C A cloud of spinning gas and dust expanded and heated up.

   D After a ball of fire cooled down, it became the Sun.

3 Writing Test

Read the statement and answer the question below. Support your answer with reasons and examples based on your own experience and/or personal knowledge.

Statement

> Language learning is now at a turning point. Translation software has become widespread and users are able to communicate in a non-native language without the need to learn it.

Question

To what extent do you agree with the statement?

Write your answer in the designated space on your answer sheet. Write as much as you think is necessary to adequately express your opinion.