平成26年度　　〔試験時間　60分〕

N 6　英　語

この冊子は，英語の問題で1ページより10ページまであります。

〔注　　意〕

(1) 試験開始の指示があるまで，この冊子を開いてはいけません。

(2) 監督者から受験番号等記入の指示があったら，解答用マークシートに受験番号と氏名を記入し，さらに受験番号と志望学科をマークしてください。

(3) 解答は，所定の解答用マークシートにマークしたものだけが採点されます。

(4) 解答用マークシートについて

① 解答用マークシートは，絶対に折り曲げてはいけません。

② マークには黒鉛筆(ＨＢまたはB)を使用してください。指定の黒鉛筆以外でマークした場合，採点できないことがあります。

③ 誤ってマークした場合は，消しゴムで丁寧に消し，消しくずを完全に取り除いたうえ，新たにマークしてください。

④ 解答欄のマークは，横1行について1箇所に限ります。2箇所以上マークすると採点されません。あいまいなマークは無効となるので，はっきりマークしてください。

⑤ 解答用マークシート上部に記載されている解答上の注意事項を，必ず読んでから解答してください。

(5) 試験開始の指示があったら，初めに問題冊子のページ数を確認してください。

ページの落丁・乱丁，印刷不鮮明等に気づいた場合は，手を挙げて監督者に知らせてください。

(6) 問題冊子は，試験終了後，持ち帰ってください。

1 The following passage is part of an article from a newspaper. Read it and answer the questions below. (74 points)

Stubborn does not come close to describing the desert tortoise, a species that did its evolving more than 220 million years ago and has since remained resolutely prehistoric.

How this creature the size of a shoe box became the single biggest obstacle to industrial-scale solar development in the Mojave Desert* is turning into a true story of the survival of the fittest. (1)

At the $2.2 billion BrightSource Energy solar farm in the Ivanpah Valley, the tortoise brought construction to a standstill for three months when excavation work found far more animals than biologists expected. The company has spent $56 million so far to protect and relocate the tortoises, but even at that price the work has met with unforeseen calamity: animals crushed under vehicle tires, (2) army ants attacking hatchlings* in a makeshift nursery and one small tortoise carried off by an eagle, its embedded microchip pinging faintly as it receded.

History has shown the tortoise to be a stubborn survivor, withstanding upheavals that caused the grand dinosaur extinction and ice ages that wiped out most living creatures. But unless recovery efforts begin to gain traction, this threatened species could become collateral damage (3) in the war against fossil fuels.

Costly conservation efforts by state and federal agencies and solar companies have created a mishmash* of strategies that one scientist says amounts to a "grand science experiment," said Jeff Lovich, who studies the impact of renewable-energy projects on desert tortoises for the U.S. Geological Survey. "One could argue that they are nature's greatest success story," Lovich said. "Yet over half the world's turtles are in dire need of help. The common denominator* is humans. They may not survive us."

Long before construction began, BrightSource was warned that the site was thick with tortoises, more so than any of the other dozen solar farms planned for that part of the Mojave. But the company wanted the site because it is ideal for generating solar power. So the company negotiated with state and federal agencies to hash out meticulously detailed protocols for collecting (4) and relocating tortoises.

The company made its first concession to the tortoise during planning, (5) about 10 percent of its expected power output in a redesign that reduced the project footprint by 12 percent and the number of 460-foot-tall "power towers" from seven to three. BrightSource also agreed to install 50 miles of intricate fencing designed to prevent relocated tortoises from climbing or burrowing back into harm's way.

The first survey of tortoises at the site found only 16. Based on biological calculations, the U.S. Fish and Wildlife Service issued BrightSource a permit to (6) move a maximum 38 adults, and allowed a total of three accidental deaths per year during three years of construction. Any more in either category and the entire project would be shut down.

The pressure boiled over after company biologists discovered that a vehicle crushed an adult female tortoise during a media tour of the site. Ultimately, the death was not attributed to the project. But other (7) occurred: a juvenile had his right forelimb gnawed by a rodent*, a tortoise died of heat distress after being caught in the black plastic erosion fencing. And as tortoise numbers rose, costs went up.

BrightSource, which was paying to have as many as 100 biologists to be on the site at one time, began seeing red. BrightSource lawyer Jeffrey D. Harris wrote to the California Energy Commission to suggest that if the Ivanpah crashed because of tortoises, the state's renewable energy goals would meet (8) the same fate.

Eventually all parties realized that the site contained more tortoises than allowed under the permit, and state and federal agencies ordered construction suspended until a new biological assessment could be completed. At Ivanpah today, 166 adult and juvenile tortoises have been collected and moved to a nine-acre holding facility. The objective is to release them into the "wild," on the other side of the fence from the solar facility. Tortoise relocation, however, is a formidable issue. Moved animals nearly always attempt to plod home, piloted by an extraordinary sense of direction.

(Adapted from "How a Prehistoric Animal is Affecting the Future of Energy")

(Notes)

the Mojave Desert:	a large desert in south-eastern California. The Ivanpah Valley is a flat and wide valley in the Mojave Desert.
hatchling:	a young animal that has recently emerged from its egg
mishmash:	a confused mixture of different types of things
common denominator:	a common feature to a number of cases
rodent:	a small mammal with sharp front teeth, such as mice, rats, and squirrels

(1) Which of the items below is the closest in meaning to the underlined part (1) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 natural selection
2 problems and solutions
3 success and failure
4 the environmental movement

(2) Which of the statements below best describes the situation stated in the underlined part (2) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 BrightSource Energy realized that the amount of money they had spent so far was not large enough to protect the tortoises

2 the company anticipated that the relocation of tortoises would succeed even if there were small accidents

3 the company was not able to avoid all kinds of unexpected accidents while they made effort to help the tortoises

4 the construction caused great damage at the site, and it turned out that the tortoises there suffered from it

(3) The sentences below explain the situation described in the underlined part (3) in the passage.

People would like to see renewable energy sources replacing fossil fuels such as oil or coal, but the construction of the solar power plant in the Ivanpah Valley threatens survival of the tortoises. Measures should be taken ( ).

Which of the items below correctly fills in the blank? Choose one from the choices and mark the number on your **answer sheet.**

1 to introduce new techniques for producing eco-friendly energy

2 to restore environmental stability for the animal

3 to comprehend the principle of wildlife conservation

4 to conduct further research on extinct species

(4) Which of the items below is the closest in meaning to the underlined part (4) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 to build a solar farm despite the objections of environmentalists against collecting and relocating of tortoises

2 to persuade the agencies into collecting and relocating tortoises, without providing all the details

3 to reach an agreement discussing thoroughly how to collect and relocate tortoises

4 to talk about possible choices of what to do without collecting and relocating of tortoises

(5) Which of the items below correctly fills in the blank (5) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 giving up
2 looking into
3 putting on
4 setting off

(6) Which of the statements below best describes the situation stated in the underlined part (6) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 A number of factors suggested that the project would collapse, although the agency permitted the company to relocate tortoises and allowed a certain number of accidental deaths.

2 If the company disregards either the regulation on moving of the tortoises or the restrictions of their accidental deaths, it would not be allowed to carry out the project.

3 The agency requested the company to reconsider environmental issues and said that the project should be abandoned even if the company followed the rules on protection of tortoises.

4 The number of accidental deaths at the site exceeded the original estimate, and the company had doubts as to whether the government would give permission to develop the project.

(7) Which of the items below correctly fills in the blank (7) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 explosions
2 marvels
3 mishaps
4 phenomena

(8) Which of the statements below is the closest in meaning to the underlined part (8) in the passage? Choose one from the choices and mark the number on your **answer sheet.**

1 the company would not be able to achieve its goal of providing renewable energy for the state

2 the goals of the state plan to produce renewable energy would be unattainable

3 the state and company would work together toward the goals to develop renewable energy

4 the state would set the ultimate goal of generating renewable energy

(9) For each of the following statements, mark your **answer sheet** with either **T** if it is true or **F** if it is false.

1 The desert tortoise seems to have looked different in the prehistoric times from what it is today because it has changed its features over a long period of time.

2 The tortoise eventually forced BrightSource Energy to draw up a plan of constructing a second solar energy plant at Ivanpah.

3 The solar farm construction had stopped for three months because biologists rejected the plan on collecting tortoises at the site.

4 Company biologists could notice a small tortoise carried away by an eagle because they had put a microchip into its body.

5 Scientific study shows that the tortoise survived drastic climate changes which caused many kinds of species to disappear from the Earth.

6 Although he is concerned for survival of turtles on the Earth, Jeff Lovich believes that solar farms will have no negative influence on desert tortoises.

7 The construction site at Ivanpah was estimated to have the largest number of tortoises compared to the other places planned for a solar farm in that part of the Mojave.

8 BrightSource set up fencing to keep tortoises away from the solar power plant, and it was proved that the tortoises did not suffer any harm.

9 State and federal agencies ordered BrightSource to stop the construction of power plant for a while so that biologists could reassess how many tortoises lived in the site.

10 Biologists object to tortoise relocation because it can be a real struggle for the tortoises to find the way back home.

2 Read the following passage. Put the words in each pair of brackets into the correct order. Mark the numbers correctly, from top to bottom, on your **answer sheet**. (26 points)

The modern needle is the direct descendant of the flint or bone awls used by humans in the Lower Paleolithic*. An awl is a pointed tool for punching holes in fiber or skin, sometimes provided with a handle, but lacking a hole through which fiber or thread can be inserted. Some early awls, however, bear a small cut near the blunt end; the user could have wound a fiber at the cut in the manner (A) (1 attach 2 fishermen 3 line 4 that 5 their 6 to) a hook.

In the Upper Paleolithic, true needles, made from splinters* of bone, appear, and a number of early Neolithic* sites in Anatolia, Iraq, and Greece have produced bone needles.

The first true holed metal needles, of copper alloy, were found in Iran in layers dating between 3600 and 3200 BC. A metal needle was found in the same (B) (1 as 2 bone 3 context 4 made 5 of 6 one), suggesting that they were in use at the same time. There was little change in the form of these tools or in their method of manufacture until the introduction of iron needles.

During Roman times both bone and metal needles were used, although (C) (1 bone 2 preferable 3 the metal 4 to 5 was) needles of the time because the metal tended to corrode* and stain the fabric it was used on. Most early needles were used for heavy work and were never intended for fine sewing; (D) (1 finer 2 needles 3 survive 4 that 5 the) often have two or three holes, to prevent the thread from slipping. Steel needles first were made in China and spread to the Middle and Near East.

Steel (E) (1 a 2 heat 3 knowledge 4 needle-making 5 of 6 requires 7 treatment) through annealing*, hardening, and tempering.

Steel metallurgy originated in China, spread to the Near East, and then to Spain, where, during the Middle Ages, Córdoba became a great needle-making center. John Stow, who had been a tailor in his youth, wrote in his *Survey of London and Westminster* (1598) of a "Spanish needle" of steel introduced into England. There is no evidence that needles were manufactured in England before the mid-sixteenth century.

(Notes)

Paleolithic: the early phase of the Stone Age

splinter: a small, thin, sharp piece of wood or glass, etc. broken off from a larger piece

Neolithic: the later part of the Stone Age

corrode: be destroyed slowly by the effect of water, chemicals, etc.

anneal: heat metal and allow it to cool slowly in order to make it stronger