

2013年度

K 英語 問題

注意

1. 試験開始の指示があるまでこの問題冊子を開いてはいけません。
2. 解答用紙はすべてHBの黒鉛筆またはHBの黒のシャープペンシルで記入することになっています。HBの黒鉛筆・消しゴムを忘れた人は監督に申し出てください。(万年筆・ボールペン・サインペンなどを使用してはいけません。)
3. この問題冊子は16ページまでとなっています。試験開始後、ただちにページ数を確認してください。なお、問題番号はI～Vとなっています。
4. 解答用紙にはすでに受験番号が記入されていますので、出席票の受験番号が、あなたの受験票の番号であるかどうかを確認し、出席票の氏名欄に氏名のみを記入してください。なお、出席票は切り離さないでください。
5. 解答は解答用紙の指定された解答欄に記入し、その他の部分には何も書いてはいけません。
6. 解答用紙を折り曲げたり、破ったり、傷つけたりしないように注意してください。
7. この問題冊子は持ち帰ってください。

マーク・センス法についての注意

マーク・センス法とは、鉛筆でマークした部分を機械が直接よみとって採点する方法です。

1. マークは、下記の記入例のようにHBの黒鉛筆で枠の中をぬり残さず濃くぬりつぶしてください。
2. 1つのマーク欄には1つしかマークしてはいけません。
3. 訂正する場合は消しゴムでよく消し、消しきらずはきれいに取り除いてください。

マーク記入例：

A	1	2	3	4	5
	○	○	●	○	○

(3と解答する場合)

I。次の文を読み、下記の1～10それぞれに続くものとして、本文の内容ともっともよく合致するものを、各イ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

There is an easy-to-achieve, scientifically proven way to make yourself smarter. Go for a walk or a swim. For more than a decade, neuroscientists and physiologists have been gathering evidence of the beneficial relationship between exercise and brainpower. But the newest findings make it clear that this isn't just a relationship; it is the relationship. Using sophisticated technologies to examine the workings of individual neurons—and the makeup of brain matter itself—scientists have discovered that exercise appears to build a brain that resists physical shrinkage and enhance *cognitive flexibility. Exercise does more to bolster thinking than just doing cognitive activities.

The most persuasive evidence comes from several new studies of mice living in stimulating cages. It has long been known that so-called “enriched” environments—homes filled with toys and engaging, novel tasks—lead to improvements in the brainpower of mice. In most instances, such environmental enrichment also includes a running wheel, because mice generally enjoy running. Until recently, there was little research done to figure out the particular effects of running versus those of playing with new toys or engaging the mind in other ways that don't increase the heart rate.

So, a team of researchers led by Justin S. Rhodes, a psychology professor at the University of Illinois, gathered four groups of mice and put them into four distinct living arrangements. One group lived in a world of luxury, dining on nuts, fruits and cheeses, and they washed all of it down with variously flavored waters. Their “beds” were colorful plastic toy houses occupying one corner of the cage. Neon-colored balls, plastic tunnels, edible blocks, mirrors and seesaws filled other parts of the cage. Group two had access to all of these pleasures, plus they had small disc-shaped running wheels in their cages. A third group's cages were bare, and they received standard, dull food. And the fourth group's homes contained running wheels, but no other toys or treats.

All the mice completed a series of cognitive tests at the start of the study and were injected with a substance that allowed scientists to track changes in their brain

structures. Then they ran, played or, if their environment was unenriched, lazily moved about in their cages for several months.

Afterward, Rhodes's team put the mice through the same cognitive tests and examined their brain tissues. It turned out that the toys and tastes, no matter how stimulating, had not improved their brains.

"Only one thing mattered," Rhodes said, "and that's whether they had a running wheel." Mice that exercised, whether or not they had any other enrichments in their cages, had healthier brains and performed significantly better on cognitive tests than the other mice. Those that didn't run, no matter how enriched their world was otherwise, did not improve their brainpower in the complex, lasting ways that Rhodes's team was studying.

Why would exercise build brainpower in ways that thinking might not? The brain, like all muscles and organs, is a tissue, and its function declines with underuse and age. Beginning in our late 20s, each year most people lose about 1 percent of the volume of the ^{**}hippocampus, a key portion of the brain related to memory and certain types of learning.

Exercise, however, seems to slow or reverse the brain's physical decay, much as it does with muscles. In the 1990s, using a technique that marks newborn cells, researchers determined during ^{***}autopsies that adult human brains contained quite a few new neurons. Even more heartening, scientists found that exercise triggers the creation of neurons. The mice that ran for a few weeks generally had about twice as many new neurons in their hippocampi as the sedentary mice in group three that lived without exercise equipment. Their brains, like other muscles, were getting bigger.

However, brain cells can improve intellect only if they join the existing ^{****}neural network. One way to pull neurons into the network is to learn something. In a 2007 study, new brain cells in mice became connected into their neural networks if the mice learned to navigate a maze, a task that is cognitively but not physically taxing. But when the researchers studied brain activity afterward, they found that the newly wired cells fired up only when the mice navigated the same maze again. The learning encoded in those cells did not transfer to other types of cognitive tasks.

Yet exercise seems to make neurons active and flexible. When researchers in

a separate study had mice run, their brains readily wired many new neurons into the neural network. Those neurons didn't fire up only when running. They also fired up when the mice practiced cognitive skills, like exploring unfamiliar environments. In the mice, running, unlike learning, had created brain cells that could multitask.

*cognitive：認識の

**hippocampus：(複数形は hippocampi) 海馬, 海馬状隆起 (脳解剖学)

***autopsy：死体解剖, 検死

****neural network：神経回路 (ネットワーク)

1. The first paragraph suggests that
 - イ. scientists have a lot of evidence about how exercise affects the brain.
 - ロ. we can think better while exercising.
 - ハ. scientists are not yet able to observe the brain's inner workings.
 - ニ. we can only become smarter through daily exercise.

2. The underlined word "bolster" (first paragraph) is closest in meaning to
 - イ. accelerate.
 - ロ. reduce.
 - ハ. improve.
 - ニ. supply.

3. Most previous studies of exercise among mice have failed to
 - イ. conduct tests in enriched environments.
 - ロ. distinguish physical exercise from mental exercise.
 - ハ. divide the mice into four different groups.
 - ニ. consider changes in the mice's brains.

4. The main purpose of Justin S. Rhodes's experiment with mice was to examine the influence of
- イ. exercise on heart rate.
 - ロ. environment on social behavior.
 - ハ. exercise on brainpower.
 - ニ. environment on physical growth.
5. In Justin S. Rhodes's experiment,
- イ. two of the four groups had running wheels.
 - ロ. three of the four groups had mirrors and seesaws.
 - ハ. one of the four groups had plastic toy houses.
 - ニ. all of the four groups had fruits and cheeses.
6. The underlined word "sedentary" (paragraph 8) is closest in meaning to
- イ. content.
 - ロ. inactive.
 - ハ. overweight.
 - ニ. weak.
7. The passage suggests that exercise
- イ. can stop brain decay but not reverse it.
 - ロ. is most effective for young people.
 - ハ. can increase neurons whatever our age.
 - ニ. is most effective if we enjoy doing it.
8. The underlined word "taxing" (paragraph 9) is closest in meaning to
- イ. demanding.
 - ロ. disturbing.
 - ハ. relaxing.
 - ニ. surprising.

9. The main purpose of the last two paragraphs is to show that

- イ. running is the best exercise for boosting brain activity.
- ロ. neurons made by exercise function in a variety of tasks.
- ハ. learning is not effective unless combined with exercise.
- ニ. cognitive skills can be improved only through practice.

10. The most appropriate title for this passage is

- イ. Do Thinking Exercises Really Work?
- ロ. Current Research on Mice Cognition.
- ハ. Stay Busy, Stay Smart.
- ニ. How Exercise Makes a Better Brain.

II。次の文を読み、下記の1～10それぞれに続くものとして、本文の内容ともっともよく合致するものを、各イ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

On May 9, 1502, Christopher Columbus set sail on his fourth—and what turned out to be last—trip from Spain to the New World. He was searching for a direct route to Asia, plus whatever treasure he could find along the way.

In August 1502, he landed at Guanaja Island, 30 miles off the coast of modern-day Honduras. He saw an enormous dugout canoe in the waters nearby and ordered his men to seize it.

The vessel turned out to be a Mayan trading canoe, probably from somewhere on the Yucatán Peninsula, and it was loaded with a full cargo of trading goods—colorful clothing, wooden swords, stone knives, copper axes, small copper bells, and other items. As Columbus's son, Ferdinand, recounted years later, the Maya who had been in the canoe were also carrying a cargo of cacao beans, which Columbus mistook for almonds. But Columbus wasn't interested in cacao beans; he was looking for gold and other treasure.

Columbus traveled as far south as modern-day Panama before returning home to Spain, where he died in 1506. He never did find his passage to Asia, and although he was the first European to come in contact with cacao beans, he died without ever tasting chocolate.

The cacao plant is native to Central America. There is evidence that the Maya had established cacao plantations by 600 A.D., after harvesting and trading cacao beans for hundreds of years. They used cacao beans to make *chocol haa*, or “hot water,” a foamy chocolate drink flavored with vanilla, hot chili powder, and other spices. But only Maya royalty were allowed to drink *chocol haa*; everyone else had to settle for *balche*, an alcoholic drink made from honey and bark. Cacao beans were so valuable that by 1000 A.D. they were being used as currency, which is why Columbus's captives treated them with such reverence.

The Aztecs acquired a taste for cacao from their contact with the Maya, and by 1200 A.D. they were collecting tributes of cacao from the tribes they dominated including the Maya. The Aztecs believed that cacao was a gift of the feathered serpent god Quetzalcoatl, who brought a cacao tree to Earth on a ray of sunlight and

taught early people how to make *cacahuatl*, or “bitter water,” the chocolate beverage that they believed gave them universal wisdom and knowledge.

The Aztecs made *cacahuatl* in much the same way that the Maya made *chocol haa*: they ground cacao beans into a powder, stirred it into water, and then gave it a foam by lifting the drink high in the air and pouring it into a second container on the ground. But unlike the Maya, the Aztecs preferred their *cacahuatl* cold; this was the drink that the *Spanish conquistador Hernán Cortés was served by the Aztec emperor Montezuma in an elaborate ceremony in 1519, when he became one of the first Europeans, if not the very first, to taste chocolate.

There was certainly nothing like *cacahuatl* in Europe, and it took a while for the explorers arriving in the New World to acquire a taste for it. “Chocolate...is a crazy thing valued in Mexico,” Jesuit missionary and historian José de Acosta wrote in 1590. “It disgusts those who are not used to it, for it looks horrible.” By the late 1500s, the Spaniards had abandoned the Aztec name *cacahuatl* and coined a new word, *chocolatl*, possibly a combination of the Maya word for “hot,” *chocol*, and adding it to the Aztec word for “water,” *atl*.

No one knows for sure when chocolate first arrived in Europe. Cortés may have brought some back to Spain with him on his trips in 1519 or 1528. But the first recorded appearance of chocolate in Europe was in 1544, when some Catholic missionaries took a delegation of Maya to visit Prince Philip of Spain. Nobody knows if the prince tried the chocolate, and if so, what he thought of it. In any event, it took some years for the new taste to catch on in Spain.

By 1585, the time the first commercial shipments of cacao beans began arriving in Spain from plantations in Central and South America, the exotic drink was appreciated mostly for its “medicinal” value. One person wrote, “This drink is the healthiest thing, and the greatest substance in the world because he who drinks a cup of this liquid, no matter how far he walks, can go a whole day without eating anything else.”

In 1655, England seized the Caribbean island of Jamaica from Spain, including a number of thriving cacao plantations. Up to that point chocolate was practically unheard of outside of Spain. Then, in 1657, London’s first chocolate café opened, advertising “an excellent West India drink, called *Chocolat*.” Similar cafés

soon opened up in the Netherlands, France, Germany, Switzerland, Austria, and Italy. Hot chocolate quickly established itself as the drink of choice of the European aristocracy (no one else could afford it); by 1690, chocolate was so popular in England that the king had a law passed to forbid its sale without a license, which gave him a financial stake in the chocolate trade.

In the late 1600s, chocolate began appearing as a flavoring in food. In France, you could buy chocolate biscuits and candies; in Spain, you could have chocolate rolls and cakes. In Italy, you could order chocolate soup, chocolate liver, and chocolate pasta—including chocolate lasagna. And in 1727, an Englishman named Nicholas Sanders became the first person, as far as historians can tell, to make a hot chocolate drink using milk instead of water.

But you still couldn't find a chocolate bar—not in Europe, not anywhere in the world. At that time nobody knew how to make chocolate in solid form—chocolate preparation had hardly advanced at all since the time of Cortés. The beans were ground, usually by hand, and then shaped into wafers or cakes that were dissolved in hot water to make drinking chocolate, which, if you wanted, you could pour into your food. That was about it.

*Spanish conquistador : スペイン人征服者

1. The passage suggests that Christopher Columbus
 - イ. took some Maya back to Europe.
 - ロ. remained on Guanaja Island for several months.
 - ハ. didn't like the taste of chocolate.
 - ニ. was not familiar with cacao beans.

2. Cacao beans were so highly valued by the Maya that they were
 - イ. believed to be a gift from Quetzalcoatl.
 - ロ. cultivated by Mayan royalty.
 - ハ. used to buy goods.
 - ニ. a major export product for the Maya.

3. The underlined word “reverence” (paragraph 5) is closest in meaning to
- ㄱ. fear.
 - ㄴ. indifference.
 - ㄷ. respect.
 - ㄹ. surprise.
4. According to the passage, the Aztecs
- ㄱ. believed that *cacahuatl* made them wise.
 - ㄴ. introduced cacao to the Maya.
 - ㄷ. liked *chocol haa* better than *cacahuatl*.
 - ㄹ. were the first people to drink hot chocolate.
5. The word “*chocolatl*”
- ㄱ. is a Mayan word.
 - ㄴ. was created by the Spanish.
 - ㄷ. comes from the word “cacao.”
 - ㄹ. was based on the word “*cacahuatl*.”
6. According to the passage, the first European to drink chocolate was probably
- ㄱ. Christopher Columbus.
 - ㄴ. Hernán Cortés.
 - ㄷ. José de Acosta.
 - ㄹ. Prince Philip of Spain.
7. According to the passage, chocolate became popular as a drink throughout Europe during the
- ㄱ. 15th century.
 - ㄴ. 16th century.
 - ㄷ. 17th century.
 - ㄹ. 18th century.

8. The underlined word "stake" (paragraph 11) is closest in meaning to
- イ. belief.
 - ロ. share.
 - ハ. place.
 - ニ. reason.
9. In European countries, during the 17th century, chocolate was
- イ. enjoyed mainly by the wealthy.
 - ロ. only available in the form of wafers or cakes.
 - ハ. used only as a medicine.
 - ニ. consumed only as a beverage.
10. The main purpose of this passage is to show that
- イ. chocolate has a long and complex history.
 - ロ. the Maya were the true inventors of chocolate.
 - ハ. solid chocolate is a fairly recent invention.
 - ニ. there are many ways to enjoy drinking chocolate.

Ⅲ。次の文1～5のそれぞれにおいて、下線部イ～ニのうち、英語表現上正しくないものを1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

1. In Tokyo's hot summer weather, there is a strong demand for air-conditioning, especially in the densely population central areas, where rows of tall buildings leave no space for trees and water to bring down the heat.

2. People are now interesting in low-calorie snacks made mainly from vegetables, such as the hugely popular soy bean donuts made from ground soy beans and soy milk.

3. In a country long considered lacking a culture of protest, thousands of people have been gathering in the political districts of major cities to protest nuclear energy and the government's plan to restart the country's reactions.

4. Spectators were asked to delay their arrive for the second day of the British Open Tournament after heavy rain overnight left standing water on parts of the Royal Lytham golf course.

5. Under the new immigration control system, alien registration cards issued by municipalities have been abolished, and instead, resident cards are now issued by the immigration authorities directly to foreign national.

IV. 次の空所(1)～(6)を補うのもっとも適当なものを、それぞれ対応する下記のイ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

Situation: Ann has bought a new * app, and her friend Greg is asking her about it.

Ann: Take a look at this. I bought a new app yesterday. It is so cool.

Greg: (1)

Ann: It's to study Japanese.

Greg: Oh, I see. Is it for learning vocabulary?

Ann: (2) Every day I watch a new video that shows Japanese being used in a natural situation.

Greg: That sounds interesting.

Ann: It is. It really helps my listening skills, and it shows me how to speak in a natural way.

Greg: I've been looking for something like that to help me study Chinese.

Ann: (3) The app handles multiple languages, and Chinese is one of them.

Greg: Is it easy to use?

Ann: Yes. The tools are simple, and the videos download automatically to your device.

Greg: How about the level of the material? I'm just a beginner.

Ann: So am I, but don't (4) You get a full script of the video, and there's a dictionary for all of the words. It also includes a pronunciation tool.

Greg: (5) That sounds like an incredible app. How much is it?

Ann: (6)

* app : アプリ, スマートフォン等のアプリケーション

- (1) イ. What's an app?
ロ. What kind of app is it?
ハ. Which app did you like?
ニ. Who is it for?
- (2) イ. It's OK.
ロ. I didn't say that.
ハ. No, not exactly.
ニ. Of course not.
- (3) イ. I wish I were you.
ロ. That's great news.
ハ. The timing is perfect.
ニ. You're in luck.
- (4) イ. get excited.
ロ. give up.
ハ. matter.
ニ. worry.
- (5) イ. Don't lie to me.
ロ. I don't think so.
ハ. If you say so.
ニ. No kidding.
- (6) イ. It's like a dream.
ロ. It's too complicated to talk about.
ハ. No one can say for certain.
ニ. You wouldn't believe me if I told you.

V. 次の日本文と同じ意味になるように、下記の英文の空所(イ)～(へ)それぞれに1語を補い、文を完成せよ。解答は解答用紙の所定欄にしるせ。

モダニズムの建築家アントニン・レイモンドは合計40年にわたって日本で過ごした。彼は今日のチェコ共和国に生まれ、1910年にアメリカに移住した。彼がはじめて日本にやってきたのは、フランク・ロイド・ライトによる帝国ホテルの建設を手伝うためであった。その後レイモンドは再来日し、アメリカのカントリーライフ嗜好と落ち着いた日本の伝統への愛情が反映された作品で、評判を確立した。日本には1920年から1937年にかけて住んだが、滞在は戦争のために中断された。彼は1950年に再来日して1973年まで滞在した。日本各地にあるレイモンド設計の教会や個人住宅は、自然な色の本製で、日本建築を思わせる細部に仕上げられている。後期の作品の1つに立教大学新座キャンパスの聖パウロ礼拝堂があり、もう1つに新潟県のカトリック新発田教会がある。

Antonin Raymond was a modernist architect who spent a total of forty years in Japan. He was born in what is today (イ) as the Czech Republic and immigrated to the U.S. in 1910. The first time he came to Japan was to work for Frank Lloyd Wright to (ロ) the Imperial Hotel. Then Raymond returned to Japan and established a reputation with his work that (ハ) his taste for American country life and his love (ニ) the serene Japanese tradition. He lived in Japan from 1920 to 1937, but his stay was (ホ) by the war. He returned to Japan in 1950 and remained until 1973. Churches and private homes designed by Raymond in various parts of Japan are built of natural-colored wooden planks with details (ヘ) us of Japanese architecture. One of his later works is St. Paul's Chapel on the Niiza Campus of Rikkyo University, and another is Shibata Catholic Church in Niigata Prefecture.

【以下余白】