英　　語

〈監督者の指示があるまで開いてはいけない〉

1. 試験開始後，まず解答用紙に自分の受験番号と氏名を正しく記入しなさい。
2. 試験開始後，速やかに問題冊子に落丁や乱丁がないか確認しなさい。
   落丁や乱丁があった場合は，手を挙げなさい。
3. 下書きは問題冊子の余白を利用しなさい。
4. 記入中でない解答用紙は必ず裏返しにしておきなさい。
5. 問題冊子は試験終了後，持ち帰ってもよい。
   ただし，試験途中では持ち出してはいけない。

I. Read the following passage and write the answers to the questions on the answer sheet.

Smallpox was one of the most dreaded (1) diseases in human history. Caused by the variola virus, it was a leading cause of death in Europe from the 11th to the 20th centuries. When European explorers arrived in the Americas, they brought smallpox with them, and the ensuing (2) epidemic wiped out up to 90% of the native population. By the 20th century, smallpox had killed hundreds of millions of people worldwide. And yet, this horrible disease became the first disease in human history to become completely eliminated. How this happened is an interesting story in medical history.

Smallpox is an extremely contagious disease spread by human to human contact. It is not carried or spread by animals. The most common method of transmission was inhalation of respiratory droplets, although it was also possible to contract it through contact with objects that had been handled by infected people. After infection, the virus would (A) for about two weeks, during which time the patient was asymptomatic, but the virus was quietly multiplying inside the body. Once this period was over, the infected person would first experience symptoms similar to the flu: fever, chills, muscle aches, and general malaise. Shortly after the first general symptoms, the more specific sign of a red rash would appear on the hands, feet, and face. The rash would then spread over the body in the form of small raised blisters or pocks, which is where the name smallpox comes from. The virus would infect the bones and organs, causing fatal (B). The mortality rate for smallpox was 30% or higher, and those who survived were left with characteristic pock scars on their faces and bodies.

It became common knowledge that those who were infected with smallpox would not contract the disease again. Thus, in the early 18th century, the (C) of variolation became popular in Europe in which people would rub themselves with a small amount of pus or scabs taken from the sores of an infected individual. The idea was that this would give them a mild form of smallpox that would make them immune. About 2% of people who became infected with smallpox this way died, but that was a much better survival rate than catching the disease normally, so it became very popular.

Then, in 1796, a physician named Edward Jenner decided to try a new technique. It was already known that dairymaids, women whose job was to milk cows, were safe from smallpox if they had already contracted a similar but harmless cow disease called cowpox. Jenner extracted (3) pus from an infected blister on the hand of a dairymaid and rubbed it into a small cut on an eight-year-old boy's arm. The boy became briefly ill, then got better. A month later, Jenner rubbed pus from a smallpox lesion into a cut on the boy's arm, but the boy did not become sick. Jenner called his new treatment vaccination, from vacca, the Latin word for cow.

Almost 200 years after Edward Jenner administered his first vaccination, smallpox was finally eliminated by (D) global campaign of quarantine and vaccination conducted by the WHO from 1967 to 1977. In 1980, the WHO officially declared that smallpox no longer existed outside of the laboratory. No cure for the disease was ever found, but thanks to Dr. Jenner, we have been free of the menace (4) of smallpox for almost 40 years.

1. Choose the best meaning for underlined words (1)~(4).

(1)	dreaded:	1. contagious	2. deadly	3. feared	4. dangerous
(2)	ensuing:	1. preceding	2. unexpected	3. widespread	4. following
(3)	extracted:	1. obtained	2. isolated	3. blended	4. produced
(4)	menace:	1. epidemic	2. mortality	3. threat	4. horror

2. Choose the correct word from the list to fill in blanks (A)~(D).

(A)	1. incubate	2. conceal	3. migrate	4. modify
(B)	1. injury	2. complications	3. toxicity	4. disorders
(C)	1. exercise	2. practice	3. problem	4. treatment
(D)	1. an intentional	2. a challenging	3. an ambiguous	4. a rigorous

3. How was smallpox usually transmitted?

1. Through contact with animals that were sick with the variola virus
2. By breathing in water vapor exhaled by an infected person
3. By touching articles or surfaces of things that had the virus on them
4. From not adequately washing objects contaminated with the virus

4. What were the distinguishing indicators of a smallpox infection?

1. The patient developed blisters all over the body.
2. The initial symptoms were similar to the flu.
3. The patient was asymptomatic for the first two weeks of infection.
4. The virus caused death by invading the bones and organs.

5. Why did people purposely try to contract smallpox?

1. Contracting smallpox from the pus of an infected person was believed to be without risk.
2. If they contracted mild smallpox from an infected scab, they would not be scarred by pocks.
3. The symptoms of variolation were milder than symptoms of full-blown smallpox.
4. They would be protected from smallpox if they developed a weaker form and lived.

6. How did Dr. Jenner make his smallpox vaccine?

   1. He took material from a cow that had the cowpox disease.
   2. He extracted pus from a cut on the arm of a boy who had already had smallpox.
   3. He removed fluid from a sore on a person infected with a safer disease that granted immunity.
   4. He combined pus from a smallpox blister with pus from a cowpox blister and rubbed them on a boy's arm.

7. Do you think Dr. Jenner's method of testing his vaccine was ethical or unethical? Give at least one reason to support your opinion.

Ⅱ. Read the following passage and write the answers to the questions on the answer sheet.

Throughout this period of immersing myself in the healing power of laser light, I couldn't help noticing the extent to which people deprive themselves of natural light and its benefits. Hospitals often seem recklessly indifferent to the role of light in healing — they no longer have the [1] by Florence Nightingale's observation, during the Crimean War, that more patients died in the hospital buildings than in the temporary field hospitals, where they were exposed to natural outdoor sunlight and air. Hospital wards influenced by her work — called Nightingale Wards — had multiple windows [2] so patients were exposed to light throughout the day.

Recent studies show that light not only speeds healing but decreases pain and improves sleep; because it improves vitamin D levels, light may also decrease some cancer risks. Today a hospital patient is lucky to have a window with direct sunlight. Increasingly windows in enclosed spaces where people spend the most time, such as cars, apartments, schools, and businesses, [3] the full spectrum of natural light in order to save money on air-conditioning. Indoors, the flickering, pasty hues of "energy-conserving" cool-white fluorescents illuminate us with a ghostly glow that is so unnatural that some sensitive patients feel ill [4].

This is not the first time in history that "energy-wise" policies have hurt public health. The Industrial Revolution's use of coal polluted the great cities of Europe and America, [5] Caleb Williams Saleeby to lament, in the early 1900s, that the "malurbanized millions" lived in darkened cityscapes even when the sun was out. Infectious disease became rampant, [6], related to an absence of light — not just overcrowding. In 1905 in New York, tuberculosis [TB] infections declined with the introduction of a law restricting coal smoke.

A trend began. Boston passed a "blue sky law," and children with TB were put aboard a floating hospital on a ship, where they could be exposed to sunlight to heal. The Swiss physician Auguste Rollier took patients to the Alps and exposed them to sun in his sanatorium, resulting in remarkable cures. The decisive factor was not just the fresh mountain air; its coolness meant that people could tolerate longer exposure to the sun. [7] the great strides that were made in heliotherapy, before the discovery of antibiotics in the 1930s, as a way to heal infection and strengthen the patient's own immune system. Now that our overuse of antibiotics is leading them to fail against the resistant organisms [8], we may have to relearn these techniques.

Our skies may be bluer again, but our indoor spaces are ever more deprived of natural light, in ways we cannot perceive, because the counterfeit light we use is often not composed of the frequencies that preserve life. We need full-spectrum light not just for [9], but for everyday living and work spaces. The damage caused by living a light-impoverished life is hidden. We can tolerate gloom for a time, but the buoyant joy we feel when we enter light-bathed spaces signals not

just an aesthetic pleasure: it is an indication that we require [10].

[Adapted from Doidge, Norman. *The Brain's Way of Healing*. Penguin Publishing Group, 2015.]

Choose the most appropriate option from the ones given below.

1. Which one of the following fills in blank [1]?

(A) privilege constructed only

(B) hospitals brightly lit

(C) sunlit courtyards inspired

(D) compassion demonstrated

2. Which one of the following fills in blank [2]?

(A) so loosely fixated

(B) strategically placed

(C) framed opaquely

(D) opened broadly up

3. Which one of the following fills in blank [3]?

(A) are colored to screen out

(B) where people can receive

(C) unknowingly cut the budget for

(D) have latched opening windows where

4. Which one of the following fills in blank [4]?

(A) without their influence

(B) when bathed by them

(C) under the weather lately

(D) being in bed untreatable

5. Which one of the following fills in blank [5]?

(A) inducing the physician

(B) as it was expressed by

(C) while in the literature

(D) with which a renowned

6. Which one of the following fills in blank [6]?

(A) proliferating and quite sadly rambling was

(B) if not always but often well-documented

(C) which physicians determined was, in part

(D) as well as widespread to nations drastically

7. Which one of the following fills in blank [7]?

(A) Much to be desired is

(B) Things which are done

(C) All but forgotten are

(D) Looking further back

8. Which one of the following fills in blank [8]?

(A) contracting dire illnesses

(B) they are spawning

(C) such as sanatorium

(D) sanitized by light

9. Which one of the following fills in blank [9]?

(A) a time being consumed during a daytime

(B) the sake of sunlight to directly come

(C) elegant atriums and lobbies for show

(D) a while during ailment bedridden by that

10. Which one of the following fills in blank [10]?

(A) appealing dues

(B) immersion program

(C) beauty for eyes

(D) light to flourish

III. Read the following passage and write the answers to the questions on the answer sheet.

When learning something new, there are (A) where trial and error helps rather than hinders, according to recent findings by Baycrest researchers. Contrary to (B), when a person makes a mistake while learning, it improves their memory for the right information, but only if the error is close to the correct answer, according to a study published in the journal, *Memory*.

"Our research found evidence (1) that mistakes that are a 'near miss' can help a person learn the information better than if no errors were made at all," says Dr. Nicole Anderson, senior author on the paper and senior scientist at Baycrest's Rotman Research Institute. "These types of errors can serve as stepping stones to remembering the right answer. But if the error made is a wild guess and out in left field, then a person does not learn the correct information as easily."

These findings could (C) improving education for not only younger adults, but also late-life learners. In one of the studies reported in the paper, researchers recruited 32 young adults with no Spanish (D) to guess the English definition of certain Spanish words. The Spanish words selected either resembled an English word with a similar meaning (such as careera, which means degree) or the word looked like an English word, but meant something different (such as carpeta, which resembles carpet, but means folder).

Participants were shown the Spanish words and asked to guess its meaning. Then, they were briefly shown the correct translation, before being shown another Spanish word. After repeating this process with 16 Spanish words, participants had a short break before their memory for the translations was tested.

Researchers found that people were better able to remember the correct translations for Spanish words that were similar to the English word. They had greater difficulty recalling the meaning for words that looked misleading (2).

"Based on these findings, someone studying for an exam should only take practice quizzes after reviewing the material," says Dr. Anderson, who is also an associate professor of psychology and psychiatry at the University of Toronto. "If a person takes a practice test and is unfamiliar (3) with the content, they risk making guesses that are nowhere near the right answer. This could make it harder for them to learn the correct information later." Even if a person makes a mistake while testing themselves, as long as their error is close to the right answer, they're more likely to remember the right information, adds Dr. Anderson.

As next steps, the team is studying the brain activity of people when they make "near miss" and "out in left field" types of errors during learning. Their work strives (4) to uncover how these different mistakes impact a person's brain function when they try to remember the correct information.

[Adapted from: Baycrest Centre for Geriatric Care. "Making mistakes while studying actually helps you learn better." ScienceDaily, 11 June 2018. <www.sciencedaily.com/releases/2018/06/180611133437.htm>]

1. Choose the correct choice from the list to fill in blanks (A)~(D).

(A)	1. patterns	2. samples	3. instances	4. arguments
(B)	1. conflicting ideas	2. proven fact	3. trusted statistics	4. popular belief
(C)	1. help with	2. benefit for	3. assist to	4. develop in
(D)	1. culture	2. setting	3. background	4. upbringing

2. Choose the best meaning for the underlined words (1)~(4).

(1)	evidence:	1. approval	2. traces	3. indications	4. authentication
(2)	misleading:	1. distorted	2. false	3. deceptive	4. ambiguous
(3)	unfamiliar:	1. ignorant	2. untested	3. oblivious	4. inexperienced
(4)	strives:	1. continues	2. supports	3. simulates	4. attempts

3. According to the text, what is the most useful point for remembering new knowledge?
   1. Making both close and wild mistakes so you have to look up the correct answers
   2. Making a mistake that is unrelated to the correct answer
   3. Making mistakes with every answer so that you must review more often
   4. Making a mistake that is almost the correct answer

4. Who will benefit the most from this research?
   1. Anyone who is trying to learn something new will find it worthwhile.
   2. Young learners will best be able to take advantage of this information.
   3. This technique will help older learners more than others.
   4. People who are cramming for tests will be able to analyze better using this method.

5. What were the participants in the study first asked to do?
   1. Try to understand the meaning of Spanish words by comparing them to English words
   2. Remember the translations of Spanish words that resembled English words but had unrelated meanings
   3. Guess the definition of some Spanish words that resembled English
   4. Learn the definitions of Spanish words that looked both similar to and different from English words

6. What was the conclusion of the study?

1. Participants had an easier time remembering the meanings of words that sounded like English words.
2. Participants found it harder to remember the meanings of words if they guessed the wrong meanings at first.
3. Participants were less able to remember the meanings of words if they made wild guesses.
4. Participants were better able to remember the meanings of words if they got the correct answer when they guessed at the beginning.