

第 1 問から第 4 問では、問題文の中の [] 内の数字はマークシートの間番号を示している。該当する問番号の解答記入欄に答をマークしなさい。

第 1 問 次の問 1～6 の空所 [1]～[6]に入れるのに最も適切なものを(1)～(4)から 1 つ選び、その番号をマークしなさい。

問 1. He has been away [1] a business trip since last Friday.

- (1) in (2) on (3) to (4) with

問 2. I can't decide which is [2] of the two cars you showed me.

- (1) a best (2) a better (3) best (4) the better

問 3. I heard that he is lost on the mountain, so all I can do is [3] for him to come back safely.

- (1) to be waited (2) wait (3) waited (4) waiting

問 4. It is urgent that emissions of greenhouse gases [4] more greatly reduced to prevent global warming.

- (1) be (2) being (3) have been (4) having been

問 5. It was stupid of him to [5] such a good offer.

- (1) break into (2) shut up (3) turn down (4) wear out

問 6. Unfortunately, a lot of criminal cases [6].

- (1) are remained unsolved (2) are remained unsolving
(3) remain unsolved (4) remain unsolving

第2問 次の問1～4においては、それぞれ日本語の意味に合うように下の(1)～(7)の語句を並べかえて空所を補い、適切な文を完成させなさい。解答は[7]～[14]に入れるものの番号のみをマークしなさい。ただし文頭にくる文字も小文字にしてある。

問1. 彼女に彼らの悪事に手を貸す度胸はない。

_____ [7] _____ [8] _____ .

- | | | | |
|----------|---------|----------|----------|
| (1) dare | (2) do | (3) evil | (4) help |
| (5) not | (6) she | (7) them | |

問2. 誰がこの失敗の責めを負うべきなのか。

_____ [9] _____ [10] _____ this failure?

- | | | | |
|-----------|---------|---------|------------|
| (1) blame | (2) for | (3) is | (4) person |
| (5) the | (6) to | (7) who | |

問3. この湖は、今ボートがいるあたりが一番深いと思う。

I guess _____ [11] _____ [12] _____ are.

- | | | | |
|------------|---------------|-------------|--------|
| (1) around | (2) boats | (3) deepest | (4) is |
| (5) the | (6) this lake | (7) where | |

問4. あの大学は名古屋の街中にあるのですか、それとも市外ですか。

Is that university _____ [13] _____ [14] _____ boundary?

- | | | | |
|------------|--------------|------------|-------------|
| (1) its | (2) Nagoya | (3) or | (4) outside |
| (5) proper | (6) situated | (7) within | |

第3問 Read the news segment transcript and answer the questions that follow.

We don't often think about how the sense of touch makes our lives possible. We grip a paper coffee cup with perfect force to hold it but not crush it. Our feet always find the floor. But for people with artificial limbs, or those with spinal injuries, the loss of touch can put the world beyond their grasp. Seventeen years ago, the U.S. government launched a \$100 million project to revolutionize prosthetic limbs. The robotics being demonstrated today is amazing—but even more remarkable is how the 'feeling of feeling' is returning to people like Brandon Prestwood.

Brandon:

For me, it was a battle if I wanted to live or die.

Interviewer:

You weren't sure you wanted to live?

Brandon:

No. I didn't know if I wanted to or not.

Brandon Prestwood's battle began with the loss of his left hand. In 2012, he was on a maintenance crew reassembling an industrial conveyor belt when someone turned it on.

Brandon:

My arm was dragged in pretty much up to the shoulder. It crushed my bones in my arm and fed my arm through a gap of about one inch.

Interviewer:

How did they save your life?

Brandon:

The other maintenance guys jumped in. They started basically taking the machine apart again. Once we got it apart, I could look in and see what was there.

Prestwood lost his hand and couldn't return to his job. After four years with a hook, he told his wife, Amy, he wanted to volunteer for experimental research involving surgery conducted by the U.S. government.

Amy:

I was not 100% on board to start with. But I knew he had his mind set that he was — he had to do this. And I couldn't hold him back.

Six years later, thanks to U.S. government projects, Prestwood controls his left hand with (あ). Electrodes, implanted in muscles in the arm of his prosthetic hand, pick up his brain's electrical signals for movement. A computer translates those signals to the hand. Sensors in the plastic fingers are connected

to nerves in his arm to return a basic sense of touch which he can demonstrate with his eyes closed.

Brandon:

It doesn't feel exactly like my right hand. It's a tingling sensation. It's not painful. It's kind of like, if your hand's been asleep, right at the end, right before it wakes up, for me, it's pleasant, it's a pleasant tingling.

A tingling that's light with a light touch but grows stronger the harder he presses. Eyes closed, he can pinch a cherry firmly enough to pull it from its stem but not crush it.

Brandon:

I can feel that. I feel it here and here.

Interviewer:

What did that mean to you to feel Amy's hand in yours?

Brandon:

The world. I was a whole person again. I didn't have to worry about (い).

Amy:

It's just given me back my husband who means the world to me. He's himself again.

'Himself' because the feeling of feeling is so much of what makes us human. Maybe that's why, when we see a tender moment, it is said to be "touching."

注 spinal: 脊髄の

prosthetic: 補装具(の)

electrode: 電極

implant: ~を埋め込む

tingling: チクチクする(感覚)

Footage supplied by CBS News

問 1. Based on the context of the news segment, which phrase best fits (あ)? Write the number of your answer in [15].

- (1) a controller held in his right hand
- (2) everything except his thoughts
- (3) muscles in his right arm
- (4) nothing but his thoughts

問 2. Based on the context of the news segment, which phrase best fits (ㄨㄨ)? Write the number of your answer in [16].

- (1) feeling incomplete until I first met Amy after the prosthetic surgery
- (2) prosthetic finger movements because my prosthetic is a hook
- (3) those negative thoughts of death creeping back into my head
- (4) using a prosthetic after surgeons were able to reattach my hand

問 3. Which statement is closest to what is mentioned about prosthetics in the news segment? Write the number of your answer in [17].

- (1) Computers generate signals based on sensations scientists want Brandon to avoid feeling.
- (2) Sensors located in the fingers of Brandon's prosthetic hand are linked to his arm's nerves.
- (3) The U.S. government project to advance artificial limbs began approximately six years ago.
- (4) This prosthetic technology has enabled computers to experience the same feelings as humans.

問 4. Which statement is closest to what is mentioned about Brandon in the news segment? Write the number of your answer in [18].

- (1) Brandon describes the sensation that he experiences when using his prosthetic as a feeling of mild discomfort.
- (2) Brandon is able to control the amount of pressure exerted by his artificial hand when he uses it to hold objects.
- (3) Despite Brandon's initial hesitation, he ended up deciding to undergo experimental surgery due to his wife's persistence.
- (4) Someone turned on a conveyor belt while Brandon was reassembling it, which caused his artificial hand to be crushed.

第4問 Read the article and answer the questions that follow.

A poll of 2,000 adults found they say ‘I’m tired’ out loud three times a day on average — with one in 10 saying the phrase five times or more. General stress (42%), work (29%), money worries (24%) and relationship issues (19%) were the top things keeping them up all night. And more than one in 10 (14%) constantly feel weary. However, 63% try to avoid stress triggers right before going to bed, with 60% blaming it for their inability to sleep. Reading a book (22%) and switching phones off completely (17%) were popular ways to de-stress at night. And 30% (あ) to stop them from looking at it too close to lights out.

Dr. Ranj Singh, sleep and wellness ambassador at Furniture Village, which commissioned the research as part of its campaign for a better night’s sleep, said: “There’s a lot going on which can impact our sleep — especially right now. Being awake can be stressful enough, and if you’re not getting the sleep you need to recharge your brain and body, that can have a serious long-term impact. Having disjointed sleep every now and then isn’t unusual, but if it’s every night, you will find your energy levels dwindling and your ability to cope with the stresses and strains of everyday life will be significantly reduced.”

The research also found one in five find it difficult — if not impossible — to pinpoint exactly why they have had a bad night’s sleep. But Brits believe they need seven hours and 15 minutes of sleep each night to be fully functional, with just one in 10 feeling like they get “more than enough.” Instead, the average adult reckons they fail to get the requisite number of hours on three nights out of seven each week. As a result, 54% of sleep-deprived citizens reported feeling irritable due to tiredness and will have two naps a week to supplement their sleep. It also emerged that when tired, 32% have eschewed healthy food and turned to junk items instead, and 24% have had an argument with their partner. While 22% have even burst into tears due to being overtired, and 20% have succumbed to illness.

But 25% of adults surveyed via OnePoll have even been so concerned about the ongoing tiredness they’ve seen a doctor or medical professional. Dr. Ranj, who has created top tips to combat stress for those wanting a perfect night of sleep, added: “The things keeping Brits awake at night are a mix of mental and physical. It’s difficult to sleep if you’re in a noisy or stimulating environment, if you’re uncomfortable, or your pillow and mattress aren’t providing the right support. In fact, 58% of people said having a decent mattress was very important when it comes to making sure they have a good night’s sleep. People aren’t averse to trying to improve their physical sleeping conditions either, with 28% getting new pillows while 24% had got a new mattress. But similarly, many issues are psychological — stress, work or money worries, or problems in your relationship can also have people staring at the ceiling during the witching hour.”

Charlie Bayliss/Independent Digital News & Media Ltd

注 disjointed: 断続的な
requisite: 必須の
averse to: ～に反対して

pinpoint: ～を特定する
eschew: ～を避ける
the witching hour: 真夜中

Brit: 英国人
succumb: (病などに)倒れる

問 1. Fill in the blank for (あ) with the phrase that best fits the context within the article. Write the number of your answer in [19].

- (1) check social networking sites on their phone all night long
- (2) have left their phone to charge in another room overnight
- (3) never let go of their cell phone for a second
- (4) watch an exciting movie that they have never seen

問 2. Choose the meaning of the underlined word “dwindling” that best fits the context within the article. Write the number of your answer in [20].

- (1) falling
- (2) multiplying
- (3) unchanged
- (4) unclear

問 3. Which of the following is NOT mentioned in the article as being effective for comfortable sleep? Write the number of your answer in [21].

- (1) choosing appropriate bedding
- (2) doing light exercise before bed
- (3) lying in a quiet environment
- (4) reducing stress

問 4. Which of the following is NOT mentioned in the article as an example of the observable effect of sleep deprivation? Write the number of your answer in [22].

- (1) difficulty waking up
- (2) fondness of unhealthy foods
- (3) health problems
- (4) mental irritability

この後の第5問と第6問は記述用解答用紙に解答しなさい。

第5問 次の英文を読み、後の問いに答えなさい。

An ancient desert wall in northern Peru was built to protect precious farmlands and canals from the ravages of El Niño floods, according to new research.

Many archaeologists had suggested that ^{«A»}the wall, known as the Muralla La Cumbre and located near Trujillo, was built by the Chimú people to protect their lands from invasions by the Incas, with whom they had a long-standing enmity. But the latest research affirms a theory that the earthen wall, which stretches 6 miles (10 kilometers) across the desert, was built ^{«B»}to hold back devastating floods during the wettest phases of northern Peru’s weather cycle.

【 あ 】

These phases are now known as El Niño — Spanish for “The Boy,” a reference to the child Jesus — because they bring heavy rain to the region around Christmastime every few years.

Although El Niño brings drought to some other parts of the world, it brings heavy rains to Ecuador and northern Peru. El Niño floods are thought to have occurred there for thousands of years, and they would have been a serious danger to the Chimú, said Gabriel Prieto, an archaeologist at the University of Florida.

【 い 】

The Chimor kingdom of the Chimú people emerged around A.D. 900 in the territories once occupied by the Moche people; as a result, the Moche period is sometimes called “Early Chimú.”

According to the “Encyclopedia of Prehistory” (Springer, 2002) the Chimú worshipped the moon — instead of the sun at the center of Inca worship — and they were independent until they were conquered by the Incas in about 1470, a few decades before the arrival of the Spanish in South America.

Today, the Chimú are known mainly for their distinctive pottery and metalwork, as well as for the ruins of their capital, Chan Chan, which are listed by the United Nations as a World Heritage site.

【 う 】

Prieto has examined the 8-foot-high (2.5 meters) La Cumbre wall and found layers of flood sediments only on its eastern side, which suggests it was built to protect the Chimú farmlands to the west, beside the coast. Radiocarbon dates from the lowest layers reveal that the wall was started in about 1100, possibly after a large El Niño flood at that time, he said.

The wall is built across two dry riverbeds that flood during El Niño. Preventing flooding in the farmlands also would have protected Chan Chan, which was connected to them by a network of canals.

“I’d guess, to some degree, that the wall worked like a kind of a dam,” Prieto said.

Prieto previously found evidence of mass child sacrifices at Chimú sites, including the remains of 76 victims at Pampa La Cruz near Huanchaco, a few miles northwest of Trujillo. He thinks the El Niño floods that necessitated the desert wall also may have been linked to the sacrifices.

【 え 】

Prieto has used radiocarbon dating to determine that one of the sediment layers along the wall is from about 1450 — a date that corresponds to the sacrifice of more than 140 children and 200 llamas at another Chimú site. He thinks it's likely that the Chimú knew the dangers of El Niño floods, which happened every few years, and that their society's rulers took advantage of the recurring disaster to solidify their authority with sacrifices.

“The Chimú were the descendants of people who had lived in this region for 10,000 years — they knew exactly what was going on,” he said. “《C》 This was a kind of political game, I think.” Superstition can serve as a form of propaganda, which political leaders can possibly use as a weapon.

【 お 】

Edward Swenson, an archaeologist at the University of Toronto who isn't involved in the research, said that Prieto's interpretation made sense.

“The idea at first struck me as incongruous, because I've not heard of walls against water before,” he said.

But Prieto's research has changed his mind, although he still thinks the wall also may have served as a defense. “The old idea was that this wall was to protect the Chimú from Inca attacks, and 《D》 it might have been multifunctional,” Swenson said.

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注 ravage: 猛威
earthen: 土製の
radiocarbon: 放射性炭素
solidify: ～を強固にする

Chimú: チムー(族)
pottery: 陶器
llama: ラマ
incongruous: 腑に落ちない

enmity: 敵意
sediment: 堆積物
recur: 繰り返される

問 1 . Prieto が下線部 《A》 の建設目的が下線部 《B》 だと考える根拠を、本文の内容に即して日本語で述べなさい。

問 2 . 下線部 《A》 はいつ頃作られ始めたか、どのような根拠に基づいて推定されているか、本文の内容に即して日本語で述べなさい。

問 3. 本文の内容に即し、下線部《C》についての次の問いに日本語で答えなさい。

- (i) “This”は、チム一族の間でのどのような出来事を指しているか。
- (ii) “a kind of political game”は、(i)に対するどのような解釈を述べたものか。

問 4. 下線部《D》の具体的な内容を、本文の内容に即して日本語で述べなさい。

問 5. 次の段落は本文のどの位置に置くのが最も適切か、【あ】～【お】の記号で答えなさい。

“The annual rainfall there in a regular year is very low — almost no rain at all,” he said. “So when the rainfall was very high, that caused a lot of damage.”

第6問 次の英文を読み、下線部 (1) ～ (3) の日本語の内容を英語にしなさい。

An increasing number of schools in Japan are using tablet computers to bring the classroom virtually to students who cannot attend lessons in person for reasons such as long-term illness or unwillingness to come to the school grounds. Experts say the remote lessons could act as an impetus to get them used to eventually learning amongst their peers again in the classroom.

At Kyoto Sowa High School operated by the Kyoto municipal government, a first-year student who had stopped attending school because of the psychological discomfort he felt in a regular classroom now studies via a tablet in a separate room from his classmates. “I find it difficult to enter the classroom,” said the student, explaining that he found it hard to get along with others. But he is still eager to learn.

Sowa provided him with a tablet with a camera for study in a separate room but (1) その生徒は、与えられたタブレットでは黒板に書かれた文字を判読することも教室での教師の授業を聞き取ることもほとんどできなかつたので、それは効果的ではないと思った。

To remedy the situation, the school introduced a new tablet device with a camera set up on a desk in front of the teacher’s podium to film the teacher and the blackboard. (2) 生徒はタブレット上でアプリを用いてカメラを遠隔操作し、教師の姿を拡大したり黒板がよく見えるようにカメラの角度を変えたりすることができる。 The brainchild of iPresence, an information technology company based in Kobe, Hyogo Prefecture, the service is called “kubi.” As the name, which means “neck,” would suggest, the stand can turn left and right (by 300 degrees) and move up and down (by 90 degrees).

With the tablet system, “we would like to increase options for learning for students unable to come to school,” said Kaori Onjo, a teacher at Sowa. The system will “also be a step toward group learning,” she added.

The use of tablets also provides hospitalized children with opportunities to learn away from the classroom. A sixth-grade boy at Kyoto Municipal Katsurazaka Elementary School who suffers from a serious illness was hospitalized for most of the first term of the current school year. After leaving the hospital, he was still unable to immediately attend school and took lessons online using the “kubi” service, mainly from home. Since the tablet enabled the boy to ask his teacher questions and talk with friends, “the lessons were really no different from those in the classroom, and I was glad because I could attend them during my follow-up visits to the hospital,” he said. He attended classes online two to three days per week.

“There are children unable to go to school because they are sick. (3) 私たちはこのような機器を普及させることにより、一人でも多くの子どもたちが学習できる機会を設けたいと思っている。” said Akihiro Ueda, principal of the elementary school.

注 impetus: 推進力

FEATURE: Use of tablets on the rise for truant, sick children, 2022年2月1日、共同通信配信