令和７年度入学試験問題（前期日程）

英　　語

中等教育教員養成課程

中等教育プログラム　英語専攻

注意事項

1. 解答は、すべて別紙解答紙の所定の箇所に記入すること。
2. すべての解答紙に、必ず受験番号を記入すること。
3. **リスニングの放送は試験が始まってから３０分以降に行う。**

〔 1 〕 Read the passage below and answer the questions that follow. Answer all the questions **in English**.

（１４０点）

The Promise and Peril of Geoengineering

Imagine the following images of Earth in the year 2050. Downtowns of coastal cities flooded up to knee level. Huge numbers of refugees escaping farmlands made barren by drought. Cities ripped apart by hurricanes and typhoons bigger and more powerful than ever before. Thousands of homes and acres of forest burned to the ground every year by massive wildfires. All of that is what we have to look forward to thanks to global warming.

It was not too long ago that scientists were cautiously optimistic that these extreme predictions could be avoided. The key was to limit the rise in average global temperature to between 1.5 °C and 2 °C by reducing greenhouse gasses by 45 percent, as agreed to by 196 countries in 2015 in Paris. Unfortunately, not only are none of the major industrialized nations who were involved in the agreement reaching their goals, but scientists have also come to realize that even if the goals of the agreement were met, that would still not be enough to avoid the worst. Now that it seems impossible to prevent imminent climate disaster through greenhouse gas reduction alone, some scientists are starting to push for what was once considered to be a crazy, last-chance solution: the active manipulation and modification of the environment known as *geoengineering*.

Broadly speaking, geoengineering consists of two types. One of them, *solar radiation management* (SRM), would attempt to reduce temperatures by reducing the amount of sunlight reaching the Earth. One method for this would call for airplanes spraying small particles of sulfur dioxide (SO_2) into the upper atmosphere to block some of the sunlight. The mechanism would essentially be the same as what has happened naturally in the past, such as when the eruption of Tambora Volcano in Indonesia in 1815 resulted in a lowering of global temperatures by as much as 3 °C. This resulted in what some called "the year

without summer." Another method of SRM, marine cloud brightening, would increase the natural reflectivity of ocean clouds by spraying them with salt taken from the sea. Perhaps the most extreme proposal for SRM would be to place large mirrors in space to deflect sunlight away from the Earth. It should be mentioned that SRM would be very impermanent; as soon as any actions of this sort were paused or stopped, the Earth would almost immediately start warming up again.

The other main type of geoengineering, *carbon management* (CM), would entail the reduction of CO_2 emissions or even the actual extraction of CO_2 from the atmosphere. Most people are familiar with the idea of simply planting more trees as a straightforward method of *carbon dioxide removal* (CDR), but there are other more advanced techniques under discussion. One of these, *carbon capture and storage* (CCS), involves pumping the CO_2 produced by factories, power plants, and waste management facilities deep underground. Scientists estimate that the CO_2 could be kept there safely out of the atmosphere for more than 1000 years. An even more ambitious version of CDR would be *direct air capture* (DAC), wherein CO_2 would be directly extracted from the air through mechanical means. This CO_2 could then be stored underground or even used to create products such as alcohol, soap, bioplastic, fuel, man-made diamonds, or even artificial meat. Finally, some suggest fertilizing the oceans with iron to encourage the growth of algae that absorbs CO_2. The benefit of all types of CDR is that they would result in negative emissions of greenhouse gasses.

Unsurprisingly, many people are worried, if not terrified, by the thought of resorting to geoengineering. The biggest concern is over the possible side effects. Some of these would be predictable and perhaps acceptable under the current circumstances. For example, sprinkling SO_2 into the atmosphere would result in our familiar skies of blue being replaced by a hazy white, although perhaps that would be offset by the accompanying brilliant sunsets. More seriously, though, this method could also damage the already threatened ozone layer.

Furthermore, while all forms of SRM would lower temperatures, they would likely cause more droughts in some areas and more floods in others. It is

also unknown how the reduction of sunlight would affect plant growth. All of these issues would, of course, be of great concern to farmers and the people who eat the food grown by them. In contrast, CM, such as CDR, would have fewer side effects; however, unfortunately, it would also take much longer to develop, and time is very much of the essence.

Another concern is that geoengineering would certainly not come cheap. It has been estimated that SRM would cost a relatively "reasonable" tens of billions of US dollars per year, while CDR might cost ten times that. Despite the expense, some would argue that considering the situation, that would be money well spent.

Other concerns are political in nature. Who would be empowered to make these decisions? How would countries come to an agreement over what measures should or should not be taken? Could developing countries be guaranteed to have an equal say?

Finally, there are ethical questions. For example, many worry about the bad message that geoengineering may give. What if, they ask, it simply provides an excuse to avoid dealing with the root cause of climate change, that is, greenhouse gas emissions? Some also wonder whether humans even have the right to interfere with nature in such a drastic way.

Proponents, however, point out that employing various forms of geoengineering does not mean that efforts would not be made to decrease greenhouse gas emissions at the same time. In that sense, geoengineering would not be a permanent solution so much as a way to buy more time. They further say that, at this point, there are simply no good options left. As for ethical concerns, they say that bridge has already been crossed, as the actions of humans have led to changes to the environment and climate from even before industrial times. Indeed, research suggests that the development of agriculture 7000 years ago led to the Earth warming as much as or even more than it has since the Industrial Revolution.

Is geoengineering a Frankenstein's monster in the making or an idea whose time has sadly come? More research would help to answer this question. Meanwhile, though, the bomb that is climate change is ticking.

(問１) Give two reasons why scientists are less optimistic about climate change than they were before.

(問２) Why does the author mention Tambora Volcano?

(問３) What three methods could be used to block sunlight?

(問４) What geoengineering solution might damage the ozone layer?

(問５) Compare and contrast the advantages and disadvantages of SRM and CDR.

(問６) How might geoengineering actually lead to higher greenhouse emissions?

(問７) Which geoengineering solution would you recommend? Why? Write approximately 60 words.

〔2〕 Jorge is an international student from Mexico, who is studying at a university in Fukuoka. His summer break is about to start, and he still doesn't know what he is going to do. However, he does have some goals.

- He wants to improve his Japanese skills, especially when communicating with people in Japan (Japanese or non-Japanese).
- He would love it if he could experience Japanese culture in some way.
- He doesn't mind using some of his own money but wants to spend as little as possible.

Suggest a plan for Jorge to spend the summer. Make sure your plan helps Jorge achieve his goals as much as possible. Write approximately 120 words in English.

（１３０点）

〔３〕リスニングテスト（１３０点）

（問１）これから英語のモノローグを聞かせます。下線部を埋めて英文を完成させなさい。モノローグは２回流します。

Surf's Up

It was a day I will never forget. It was a weekend, and my high school friends and I went to the beach, hoping to surf the huge waves rolling in from the ocean in sets of three to five. They were the biggest I had seen and, after that day, the biggest I would ever have surfed. After deciding where to paddle out, we put on our wetsuits, grabbed our boards, waited for the right moment, then jumped in the water (ア) _____.

For the next few minutes, we just concentrated on paddling and made excellent time; it seemed that we would quickly make it 'out the back', the place where surfers wait to catch waves. However, this was not to be, as I caught sight of the next set of large waves slowly rolling in. Waves seem so much bigger when (イ) _____.

I managed to paddle over the first wave with no trouble, and the second just as it was starting to break, but the third and largest wave crashed down five meters ahead of me. Time seemed to slow down as a roaring, whirling wall of whitewater rushed toward me. Taking a huge gulp of air, I pushed down on my board with all my might, hoping to 'duck dive' under the whitewater in order to escape the worst of it, but the wave had other ideas. Being thrown around violently for what seemed like an eternity, I wondered if (ウ) _____.

Finally, I was able to claw my way up to the surface, and the first thing I did was to grab a long overdue breath of air. Then I quickly reeled in my board and started paddling again. I couldn't see where my friends were, and I wondered whether I would get caught by another set of waves and, just maybe, have to (エ) _____.

But suddenly the sound of breaking waves was all behind me, and I looked up to see my friends grinning at me from just up ahead. I grinned back. We had all made it through these powerful beasts, and now we would (オ) _____

_____

（問２）大学生の Oliver, James, Yuki が、英語イベントについて話をしています。対話を聞いて、（ア）～（オ）の問いにすべて**英語で**答えなさい。会話は２回流します。

（ア）What is the purpose of "English Fair for Kids, 2024"?

（イ）Fill in the blanks in the table below.

Suggested Activities	*Details*
Who-Am-I Quiz	• Quizzes will be given in _____. • Participants will win the quiz by _____.
Dream Catcher Making	• Activity organizers will _____. • Participants will _____.
Mission Quest	• Participants will complete the mission written on a card. • One example given of a mission was _____.

（ウ）What three materials do the speakers have to prepare for "Dream Catcher Making"?

（エ）What is unique about "Mission Quest" as compared to the other activities?

（オ）Imagine you are going to volunteer in the English Fair. Which booth would you like to be assigned to? Why? Write approximately 80 words.