

Q 6

英 語

この冊子は、英語の問題で 1 ページより 12 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で、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

Read the following passage and answer the questions below. (67 points)

- [1] The threats from climate change are many: extreme weather, shrinking snowpack, altered ecosystems and rising and more acidic seas, to name a few. Another lesser known issue may hit especially close to home for city dwellers. In the world's already smoggy metropolises, pollution is likely to grow worse, a phenomenon scientists have taken to calling the climate penalty.
- [2] Ozone is a key culprit. This lung-damaging compound, often formed from chemical reactions involving sunlight and automobile exhaust and other pollution, plagues major cities around the globe. As the climate heats up, it is projected that more ozone will form in polluted areas on sweltering days.
- [3] "You have a hot summer, you're going to get a lot of ozone," said Daniel Jacob, a professor of atmospheric chemistry and environmental engineering at Harvard.
- [4] The explanation lies in chemistry. Ozone, formed by a sunlight-aided reaction of volatile* organic compounds with nitrogen oxides*, is created more quickly at higher temperatures, as was evident during the European heat wave of 2003. Climate change will also make the movement of air less dynamic in some areas like the East Coast of the United States, Dr. Jacob said, because with the Arctic getting warmer more quickly than the tropics, air circulation between those two regions will (1). In a warmer world, plants may also produce more emissions that are precursors to ozone.
- [5] In a 2009 paper in the journal *Atmospheric Environment*, Dr. Jacob and another researcher found that "climate change alone will increase summertime surface ozone in polluted regions by 110 parts per billion over the coming decades, with the largest effects in urban areas and during

pollution episodes.” (The United States standard for ozone is 75 parts per billion, though many experts say it should be lower to protect health.)

[6] But the projections for ozone are not uniformly bad. Scientists predict that the climate penalty will mainly affect already polluted cities, where ozone is formed locally. But because a warmer climate means more airborne water vapor, which can dismantle* ozone through a series of chemical reactions, the background level of ozone—that not created by man—at the earth’s surface is expected to fall. This means that sparsely populated areas, which produce less pollution, may escape the climate penalty.

[7] In Europe, for example, southern areas are expected to see climate change lead to higher ozone (assuming emissions stay the same), whereas the thinly populated Nordic region could feel no impact or even see improvements, according to Joakim Langner, an associate professor at the Swedish Meteorological and Hydrological Institute. Southern Europe not only produces more ozone-forming emissions, but it is also projected to become drier and sunnier, Dr. Langner said—conditions conductive to ozone formation.

[8] In China, a similar regional (2) is expected to emerge. Eastern China, home to megacities like Shanghai and Beijing, is likely to see an increase in ozone problems, whereas western China can expect lower levels, scientists project. The ozone in western China is largely produced elsewhere, allowing water vapor in the atmosphere an opportunity to dismantle* the ozone through a series of chemical reactions.

[9] The phenomenon of an increase in climate-linked ozone is likely to hold true for other big, polluted Asian cities, like those in Japan or India, said Amos Tai, an assistant professor in the Earth System Science Program at the Chinese University of Hong Kong.

[10] Scientists are most certain of the trajectory of ozone, but other health-damaging air pollutants may also be affected by climate change.

Attention is turning to soot and other fine ^(j) particles, which can lodge in the lungs and cause long-term harm.

[11] In areas prone to drought, the climate may also worsen soot-spewing wildfires, as is the case this year in the western United States.

[12] In China, where fine ^(j) particles are already a huge problem for big cities, a change in winter monsoon patterns could bring less clean air from eastern Siberia, and “that would favor more pollution over eastern China,” said Yuxuan Wang, an assistant professor of atmospheric chemistry at Texas A&M University, Galveston. A changing monsoon could also affect South Asia’s pollution distribution, she said.

[13] Even on ozone further study is needed, said Ruth Doherty, a reader in atmospheric sciences at the University of Edinburgh in Scotland. “Ozone is still a key area of research in the context of climate change impacts because (1 to 2 and hence 3 is 4 meteorological conditions ^(k) 5 climate 6 it 7 strongly coupled),” she said.

[14] Carlos Ordonez, who works on regional air quality modeling for the Met Office in Britain, points out that most records for ozone and other air pollutants are relatively short, compared with temperature data, so longer-term information is needed.

[15] But with the threat of a climate penalty looming, of course, added ^(l) impetus is on the world’s nations to reduce their emissions of air pollutants from factories and motor vehicles.

(Adapted from *International New York Times*)

Notes

volatile: changeable; easily evaporated at normal temperatures

nitrogen oxides: a compound of oxygen and nitrogen, often referred to as NO_x

dismantle: break up

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(1) Which of the items below is the closest in meaning to the underlined part

(a)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | |
|--------------------------------|--------------------|
| 1 have direct personal effect | 2 be very friendly |
| 3 make considerable difference | 4 be well known |

(2) Which of the items below is the closest in meaning to the underlined part

(b)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | |
|----------------------|------------------------|
| 1 a strong supporter | 2 a credible theory |
| 3 a principal cause | 4 a convicted prisoner |

(3) Which of the items below is the closest in meaning to the underlined part

(c)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | | | |
|---------|-----------|--------|------------|
| 1 foggy | 2 burning | 3 mild | 4 freezing |
|---------|-----------|--------|------------|

(4) Which of the items below correctly fills in the blank (1)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | | | |
|--------------|---------------|--------|---------------|
| 1 accelerate | 2 be purified | 3 slow | 4 be polluted |
|--------------|---------------|--------|---------------|

(5) According to the underlined part (d), if global temperatures rise, then factories are likely to increasingly create substances which ...

- 1 prevent the formation of ozone.
- 2 are reduced by ozone.
- 3 are also formed by ozone.
- 4 allow the formation of ozone.

- (6) Which of the items below is the closest in meaning to the underlined part (e)? Choose one from the choices and mark the number on your **Answer Sheet**.

1 chapters 2 stories 3 events 4 efforts

- (7) Which of the items below correctly explains the meaning of the underlined part (f)? Choose one from the choices and mark the number on your **Answer Sheet**.

- 1 The campaign of scientists against the formation of ozone has both advantages and disadvantages.
- 2 It is anticipated that higher temperatures that help the formation of ozone will bring desirable effects as well.
- 3 It seems that the amount of ozone has recently decreased and the situation will get better around the world.
- 4 In the view of scientists, a detailed plan to stop the formation of ozone sometimes has drawbacks.

- (8) Which of the items below best summarizes the meaning of the underlined part (g)? Choose one from the choices and mark the number on your **Answer Sheet**.

- 1 notwithstanding emissions change
- 2 no matter how emissions differ
- 3 if emissions are consistent
- 4 even if emissions increase

(9) Which of the items below is the closest in meaning to the underlined part (h)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | |
|-----------------------|-------------------------|
| 1 being improper for | 2 that will lead to |
| 3 being influenced by | 4 that will make up for |

(10) Which of the items below correctly fills in the blank (2)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | | | |
|---------|---------|--------------|-------------|
| 1 unity | 2 split | 3 experiment | 4 prejudice |
|---------|---------|--------------|-------------|

(11) Which of the items below is the closest in meaning to the underlined part (i)? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | |
|------------------------|------------------|
| 1 what will become of | 2 how to produce |
| 3 what is contained in | 4 how to recover |

(12) Which of the items below includes the “fine” that has the closest in meaning to the underlined part (j), which appears in paragraphs [10] and [12]? Choose one from the choices and mark the number on your **Answer Sheet**.

- 1 I like to spend holidays reading fine pieces of writing.
- 2 If we have fine weather, we'll go hiking tomorrow.
- 3 My husband gave me a fine gold ring as my birthday gift.
- 4 The prefectural government issued a fine dust alert this morning.

(13) Put the words and phrases in the underlined part (k) into the correct order.
Mark the numbers correctly, from top to bottom, on your **Answer Sheet**.

(14) According to the underlined part (l), every country in the world must be much more . . .

- 1 ashamed of the failure to avoid air pollution.
- 2 satisfied with the current measures to control air pollution.
- 3 involved in preventing air pollution.
- 4 opposed to being penalized by air pollution.

(15) 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 climate penalty referred to in this passage is a vicious cycle in which mostly polluted areas see the air problems become more severe.
- 2 Sunlight helps create ozone.
- 3 The European heat wave of 2003 proves that the formation of ozone results in climate change.
- 4 A lot of specialists think that the US standard for ozone is too low for people to keep in good health.
- 5 In Europe, thinly populated regions tend to be excluded from the climate penalty.
- 6 Owing to scientists' efforts, western China is now almost free from ozone problems.
- 7 Changing monsoon patterns would update the mapping of South Asian pollution.

2

Read the following advertisement, and answer the questions below.

(33 points)

Saturday's Event Biblio Battle

To all book loving teachers and students! Our library will hold the 3rd "Biblio Battle" on Saturday the 24th of February. If a quick look at this flyer interests you even a bit, why don't you come and join us?

What is a "Biblio Battle"?

"Biblio Battle" is a simple book reviewing activity. Presenters, often called "Biblio Battlers," or simply "Battlers," will bring their favorite book and talk about it to the audience for 5 minutes. Then the book that draws the most interest and gets the most votes from the audience will be the winner. That book will then be "the Book of the Day."

Who can Join?

Teachers and students of our university (regardless of year or major), and people working for this university can join the battle (either as presenters or as part of the audience). Others can be welcomed if they reserve a seat in advance. Reservations can be made at the reference desk in the Main Building of the library.

How Many "Battlers" Do We Want?

10 "Battlers" will be accepted in order of arrival.

Time

After a brief introduction from 1:45pm, the "Battle" starts at 2:00pm and will end around 3:40pm (We'll have a 10 minute break from 2:40pm to 2:50pm).

Place

The venue is the Active Learning Area on the 2nd floor of the New Media Building (NMB). From the Entrance Hall of the Main Building, you should first take the East Stairway up to the 2nd floor, and there you make a left and go straight to get through the connecting passageway to the NMB. Once you enter the NMB you can easily find the Area in front of you.

What Kind of Books?

Any book can be brought, but magazines or newspapers are not allowed (You know this is a *Biblio* battle!). You can bring your own copy or you can borrow the book at the library. However, the availability of books in the library is limited, so you'd better get the book you need in advance.

Notice for “Battlers”

- * Do NOT fall short of or exceed 5 minutes.
- * After each battle, 3 minutes will be saved for the next “Battler” to prepare the “Battle.”
- * Any commercial activity (such as selling books or related materials) is strictly prohibited during the event.

Notice for Audience

- * No food is allowed in the Active Learning Area.
- * You can bring your own coffee, tea, or any other drink that is alcohol free.
- * You can freely upload photos and movies onto social media (like Facebook or Twitter, etc.) without any permission of the library office.

(1) According to the advertisement, “the Book of the Day” will be chosen based on ...

- | | |
|-----------------------------------|-------------------------------------|
| 1 the decision of the presenters. | 2 the discussion of the professors. |
| 3 the number of reviews. | 4 the preference of the audience. |

(2) According to the advertisement, who is NOT allowed to join the event without reservation? Choose one from the choices and mark the number on your **Answer Sheet**.

- 1 a high school student living nearby
- 2 a professor of this university
- 3 a security guard of this university
- 4 an office staff of this university

(3) If the schedule is on time, which “Battler” will be the first to speak after the 10 minute break? Choose one from the choices and mark the number on your **Answer Sheet**.

- | | |
|-----------------------|-------------------------|
| 1 the third “Battler” | 2 the fifth “Battler” |
| 3 the sixth “Battler” | 4 the seventh “Battler” |

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- (4) If you are asked about the way to the Entrance Hall of the Main Building from the Active Learning Area, which of the items below is the right answer? Choose one from the choices and mark the number on your **Answer Sheet**.

- 1 Once you have left the Area, you should first go through the connecting passageway to the Main Building, then you go straight and make a left to take the West Stairway down to the Entrance Hall.
- 2 Once you have left the Area, you should first take the East Stairway up to the 2nd floor and go through the connecting passageway to the Main Building, then go straight to make a left to the Entrance Hall.
- 3 Once you have left the Area, you should first go through the connecting passageway to the Main Building, then you go straight and make a right to take the East Stairway down to the Entrance Hall.
- 4 Once you have left the Area, first take the West Stairway down to the 2nd floor and go through the connecting passageway to the Main Building, then go straight to make a right to the Entrance Hall.

- (5) According to the advertisement, which of the items below is recommended for “Battlers” BEFORE the event? Choose one from the choices and mark the number on your **Answer Sheet**.

- 1 To make a photocopy of the book
- 2 To book a seat for themselves
- 3 To obtain the book they are going to talk about
- 4 To stop subscribing to newspapers or magazines

- (6) According to the advertisement, decide whether each item below is permitted or not in this event. Mark your **Answer Sheet** with Y, if it is permitted, or N, if it is **NOT** permitted.

=For “Battlers”=

- 1 Finish talking about the book in 4 minutes
- 2 Making use of 3 minutes right after the former “Battle” to prepare their presentation
- 3 Selling their chosen books

=For audience=

- 4 Eating a donut in the Active Learning Area before sessions begin
- 5 Having a glass of soda during the battle
- 6 Shooting movies of the “Battlers” to share the event with friends