

英 語

(医 学 部)

— 2 月 2 日 —

解答はすべて解答用紙に記入して提出しなさい。

1 次の英文を読み、問1～6は文を完成させ、問7～9は問いに答えなさい。答えは最も適切なものを、それぞれア～エの中から一つ選びなさい。問10は指示に従ってTかFを選びなさい。

The Earth's broad range of animal and plant life is known as biodiversity. The severe loss of biodiversity is probably one of the greatest challenges of the modern era. While some argue that preserving the Earth's biodiversity is important for its own sake, others argue that it is ultimately important for the survival of humankind. For example, rainforests, such as the Amazon, are home to over half of the world's life. However, deforestation^{*1} could lead to a significant loss of species over the next 50 years. In fact, it is estimated that up to 10% of tropical species in the rainforests are lost every ten years. There could be medical and food security consequences connected to these losses.

Firstly, new developments in medicine are sometimes related to the medical properties of rainforest plant life. At this point in time, the value that can be placed upon the millions of animal and plant species is yet unknown. However, a species with little practical value today could prove to be of significant worth at some point in the future. It is now known that over 1,300 rainforest plants have a medical usage, yet only one in a hundred plants has been researched and tested for health-related attributes. In fact, many drugs have come from simple beginnings. [1], Novocaine, a local anesthetic^{*2} that was once widely used by dentists, has been produced synthetically for over 100 years, but it has its origins in the coca plant. Turbocuarine, a muscle relaxant^{*3} used in surgery, is derived from the bark of a South American creeping vine. Imagine the new breakthrough drugs waiting to be found on the forest floor.

In addition to medical properties, biodiversity is also very important for food security. Over 90% of the world's rice is grown in Asia. However, this food is grown using very few species of rice. If a disease or insect starts to affect one of these rice species, it could have a major impact on the world's food security. In contrast, a diverse range of foods reduces the risk of food shortage. The greater the variety of foods that humans use, the less likely they are to face famine or hardships from over-dependence upon a limited number of crops.

In an indirect sense, there are also compelling food security arguments for the preservation of biodiverse forests to help fight global warming. The cutting and burning of rainforests has led to the release of large quantities of carbon dioxide. This fuels the process of climate change around the world, which alters weather patterns and temperatures. This change then affects plants, which affects animals that depend upon the plants. These environmental changes lead to many plant and animal species disappearing, including ones that are used for food. A dangerous downward spiral in mankind's food security could occur. Consequently, we will need a diverse selection of species to overcome the challenge of change in an uncertain future.

[2], we must recognize that some change is always likely. We should expect certain species to die out, while others will grow more dominant. However, we live at a time when humans have the power to alter vast areas of our planet. Therefore, we must not lose sight of the fact that biodiversity holds the key to medical progress and food security. Once biodiversity is lost, it cannot be reclaimed.

*1 deforestation 森林伐採

*2 anesthetic 麻酔剤

*3 relaxant 弛緩剤

- 問1 The purpose of the second paragraph is to explain _____ animal and plant species.
- ア. the potential importance of
 - イ. the poor health of
 - ウ. the long history of
 - エ. the deep research into
- 問2 According to the second paragraph, new breakthrough drugs are _____.
- ア. muscle relaxants
 - イ. local anesthetics
 - ウ. well known
 - エ. yet to be discovered
- 問3 The purpose of the third paragraph is to explain _____ biodiversity.
- ア. an increase in
 - イ. the causes of
 - ウ. the politics related to
 - エ. a benefit of
- 問4 According to the third paragraph, a risk to global food security is _____.
- ア. 50% of rice being grown in Asia
 - イ. the broad range of foods used
 - ウ. so few species of rice being used in Asia
 - エ. conserving large amounts of rainforest land
- 問5 According to the fourth paragraph, global warming _____.
- ア. benefits biodiversity
 - イ. harms food security
 - ウ. cannot be avoided
 - エ. causes rainforest fires
- 問6 In the last paragraph, “others” refers to other _____.
- ア. people
 - イ. changes
 - ウ. companies and governments
 - エ. plants and animals

問7 Which word or words best replace [1] in the passage?

- ア. However
- イ. Therefore
- ウ. For example
- エ. In addition

問8 Which words best replace [2] in the passage?

- ア. In the middle
- イ. In reverse
- ウ. In the end
- エ. In return

問9 Which would be the best title for the passage?

- ア. The Importance of Biodiversity
- イ. The Value of Deforestation
- ウ. The Biodiversity Myth
- エ. The Deforestation Argument

問10 Based on the passage, which of the following is true or false? Mark "T" if the statement is true, mark "F" if the statement is false.

1. Only 100 plants have been tested for medical properties.
2. One in ten species worldwide will be lost in the next decade.
3. Novocaine is more than a century old.
4. The burning of the rainforests affects food security.
5. A negative spiral in worldwide food security occurred over a century ago.

- 4** 次の2つの会話文を読み、1～3は問いに答え、4～8はその意味・内容に合うように文を完成させなさい。答えは最も適切なものを、それぞれア～エの中から一つ選びなさい。

John: Did you hear the news about this gym building?

Sally: Yes, I did. Shocking, isn't it?

John: Yes, it is!

Sally: What do you think they will do? I have heard many rumors.

John: Yes, I hear they have big plans for this building.

Sally: I heard they will knock it down and build a science lab.

John: Really? I heard it would be a new auditorium.

Sally: Well, whatever they do, I am going to miss this old gym. I love it. Where are we going to exercise?

John: They are going to build a new one on the far side of campus. It'll be bigger with state-of-the-art equipment. Also, it will open before the old one closes.

Sally: Where will it be, exactly? I just have to go to the gym!

John: Can you see...about 500 meters...just over there?

Sally: Where, over there? Next to the Medical School, opposite the cafeteria?

John: Yeah.

1. Where are they?

- ア. at the old gym イ. at the new sports center
ウ. at the cafeteria エ. at the auditorium

2. How did John and Sally most likely feel when they first heard the news about the old gym closing?

- ア. Neither was surprised.
イ. They were both surprised.
ウ. Only Sally was surprised.
エ. Only John was surprised.

3. What does "I am going to miss this old gym" most likely mean?

- ア. It will be difficult to find the new gym.
イ. She will be sad when the gym is gone.
ウ. She will not go to a gym from now on.
エ. It will be impossible to exercise anymore.

4. The new sports center will _____.

- ア. be a smaller facility イ. include a medical center
ウ. include a cafeteria エ. be a very modern facility

Man: Have you signed the card for Tom, Carol, and little Sally, yet?

Woman: No, I didn't want to be the first one.

Man: Well, it's the thought that counts, so a simple "Congratulations" is always nice. Show you are happy and excited for them.

Woman: Of course that's true, but it doesn't seem like enough. We are talking about a brand new life — Sally is turning one month old tomorrow — and a new life as parents for Tom and Carol. They will have many nights with little sleep, tons of extra laundry to wash, and if they are like other new parents, they will worry every time Sally gets a cough. It's not going to be easy for them.

Man: You're right. We've all been friends for so long, and we have all depended on each other at different times. It's their turn now. They aren't alone in this. We'll be there for them.

Woman: That's what I was thinking...and what I'll write on the card. Thank you. After you, though.

5. The woman's problem is that she _____.

- ア. does not know what to write
- イ. does not know how to help
- ウ. wants to sign the card first
- エ. wants to buy a brand-name present

6. When the man says, "It's the thought that counts," he means that _____.

- ア. the important thing is to show you care
- イ. it would be best to buy something new
- ウ. it would be nice to have a less stressful life
- エ. doing calculations in your head will help you feel better

7. When the man says, "We'll be there for them," he means that _____.

- ア. Tom and Carol should have independent lives
- イ. Tom and Carol should not live alone
- ウ. he and the woman will help them out
- エ. he and the woman will not visit their house

8. The card is for _____.

- ア. Tom's retirement
- イ. Tom and Carol's new baby
- ウ. Carol's birthday
- エ. Tom and Carol's move to a new city

- 5** 次の問1～4の英文を読み、話の流れに沿って意味が通るように並べ替えた場合、最も適切なものはどれか。それぞれア～エの中から一つ選びなさい。

- 問1 1. Consequently, procedures were officially reviewed to see what could be improved.
2. Although it was fairly successful, the head doctor was not completely satisfied with some aspects of the surgery.
3. This official evaluation led to minor changes to the operating manual.
4. Most people initially thought the surgery went well.

ア. 2 → 4 → 3 → 1 イ. 4 → 2 → 1 → 3
ウ. 2 → 1 → 4 → 3 エ. 4 → 3 → 1 → 2

- 問2 1. We had never met until this morning.
2. I was sure that I knew him.
3. Yet his face was so familiar.
4. At least that's what he told me.

ア. 1 → 4 → 3 → 2 イ. 3 → 1 → 2 → 4
ウ. 1 → 2 → 3 → 4 エ. 3 → 4 → 1 → 2

- 問3 1. When you understand the concept, you can easily solve the problem in your head.
2. I do not think, however, that it is going to help you.
3. You can use a calculator to solve this problem.
4. This problem is more about understanding the mathematical concept.

ア. 3 → 2 → 4 → 1 イ. 2 → 3 → 4 → 1
ウ. 3 → 4 → 2 → 1 エ. 2 → 1 → 3 → 4

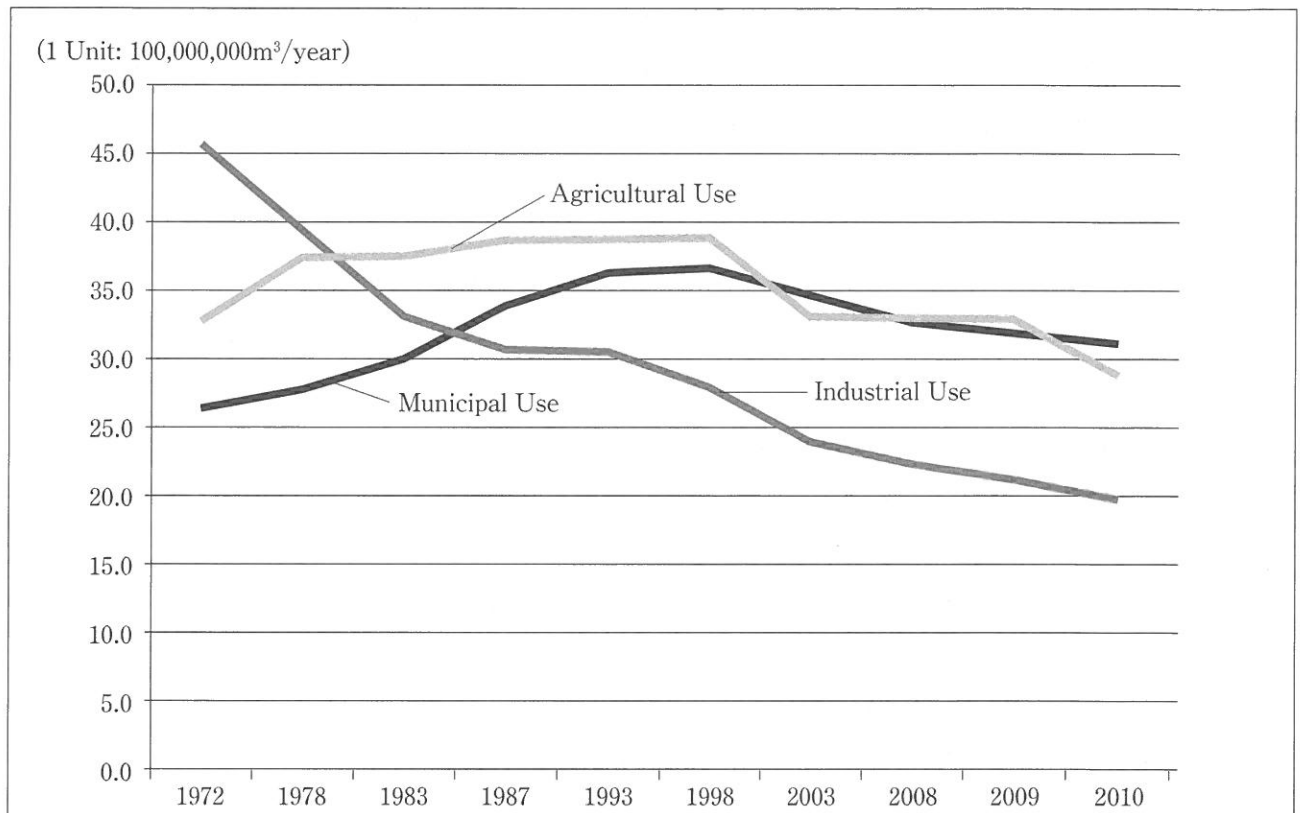
- 問4 1. It is a surprising fact that hot water can freeze faster than cool water in an ice tray.
2. It also melts frost inside the freezer.
3. This may be because hot water prevents small ice crystals from forming too early.
4. With none of those ice crystals or frost in the way, heat can now be removed from the water more quickly.

ア. 1 → 3 → 2 → 4 イ. 4 → 1 → 2 → 3
ウ. 1 → 4 → 3 → 2 エ. 4 → 2 → 3 → 1

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次のグラフを見て、英文の空所(1)～(4)に入る最も適切なものを、それぞれア～エの中から一つ選びなさい。

Groundwater* Usage in Japan



—— 環境省HP (<http://www.env.go.jp>) → 「グラフ・環境指標」(2012年)より抜粋(一部改変) ——

* groundwater : 地下水

This graph shows the (1) of groundwater usage between 1972 and 2010 in Japan. The amount of groundwater for (2) use was in decline during the 1970s. The graph also indicates that the amount of water for municipal use reached its highest point around (3). In 2010, the amount of groundwater used for agriculture was (4).

- (1) ア. predictions イ. volumes ウ. outcomes エ. flows
- (2) ア. agricultural イ. municipal ウ. industrial エ. agricultural, municipal, and industrial
- (3) ア. 1978 イ. 1987 ウ. 1998 エ. 2009
- (4) ア. greater than that of industrial use in 1972
 イ. less than municipal use in 1987
 ウ. greater than that of agricultural use in 1998
 エ. less than that of industrial use in 2003

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次の英文を読み、下線部(1)と(2)を日本語に訳しなさい。(2)はtheyが示すものを明らかにしなさい。

UNESCO World Heritage Sites (WHS) are places considered to have outstanding universal value by the World Heritage Committee. As of September 2012, the total number of UNESCO WHS was 962, which includes such famous tourist attractions as Yellowstone National Park in the U.S., the Great Barrier Reef in Australia, and Lake Baikal in Russia. The committee encourages the identification and preservation of places that are of outstanding cultural or natural⁽¹⁾importance. Historical monuments and buildings are also included. For example, the ancient Buddhist temples, gardens, and archaeological sites of Hiraizumi became the first World Heritage Site in the Tohoku region in 2011. The Ogasawara Islands were also added to the list in 2011. Sometimes referred to as the Galapagos of the East, they meet the⁽²⁾committee's criteria of a very unique and rare ecological and biological evolutionary process.

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次の文の下線部(1)と(2)を英語に訳しなさい。

The *Shinkansen*, known in English as the “Bullet Train,” is a type of train, and a network of high-speed railway lines that connects Tokyo with many of Japan’s major cities at speeds of up to 320km/h. It currently operates on six routes nationwide: Tohoku, Joetsu, Hokuriku, Tokaido, Sanyo and Kyushu. During the economic growth of the 1950s and 1960s, Japan placed importance on manufacturing. 東海道ルートに使用された最初の新幹線は、日本の経済成長と発展の象徴⁽¹⁾として1964年に導入された。 それ以来、新幹線は進化し、拡張し続け、最も快適な乗物の1つとなっている。⁽²⁾ The Bullet Train has also been a world leader in railway technology and is considered to be the fastest, safest, and most comfortable ride.