

2023年度 医学部 一般選抜 問題訂正

教科・科目	ページ	設問	誤	→	正
外国語 (英語)	9	Ⅱ	Q7 下線部 「 <u>in no more . . . characters</u> 」	→	「 <u>in Japanese</u> 」

[ I ] 次の英文はサウンドスケープ（音風景）に関する研究について述べたものである。  
英文を読んで設問に答えなさい。

A healthy marine ecosystem is an orchestra of sounds—the rhythmic humming of fish calling to each other, crabs scuttling along reefs, and sea grass rustling in the currents. (A) しかし、生態系が崩れつつあるときには、音を立てる生命がそこにはあまりいない。 Marine animals tend to avoid these wastelands, so (1) when an ecosystem is degraded by human interference, storms, or heat waves, it has a harder time coming back to life. However, if marine animals think there's life in these sparsely populated environments, they are more likely to check them out and even put down roots.

Mounting research shows that the sounds of a healthy ocean habitat may be a pivotal tool in bringing unhealthy marine ecosystems back to life. (2) Numerous research teams studying soundscape diversity in the ocean over the past few decades have found this to be the case. Just as big cities draw more people, a bustling\* part of the ocean seems to attract more marine life. If marine animals hear a healthy-sounding environment, they're (ア) incline to move in—even if the habitat has been destroyed.

What happened off Lizard Island in the Great Barrier Reef is an example. A group of marine biologists (イ) study ocean soundscapes regularly visited it, because it's a protected area that was once overflowing with life. But in 2016, a long heat wave (ウ) lead to an enormous coral bleaching event that wiped out much of the reef, after which the sounds of the reef diminished significantly, says Steve Simpson, Professor of Marine Biology & Global Change at the University of Bristol. (B) その静けさは、荒涼としたゴーストタウンになってしまったサンゴ礁に合っていた。

Simpson's team decided to see whether they could lure young fish back to the almost barren reefs off Lizard Island using old sound recordings of the marine habitat (エ) make when it was full of life. (3) Sure enough, twice as many fish took up residence near speakers playing the old soundscape recordings than in the areas of the reef that had no acoustic enhancement. This made Simpson's team think that sound could perhaps (オ) use as a tool to actually accelerate recovery.

Sound is a vital part of marine animals' ability to navigate and survive in their environment. In the early stages of life, they（海洋生物は）(C) 音を使ってどの生息地が棲家すみかと呼ぶに最もふさわしい場所であるかを判断している。 Sound

travels long distances in water without being lost to things like currents, making it a long-distance cue. It's much more useful than sight, since water often obscures anything at a distance, as researchers such as Simpson quickly learned while traveling across the Great Barrier Reef. (D) 海洋生態系の健全性は、サウンドスケープの多様性、つまりどれだけ複雑で生産的であるかによって評価することができる。

Underwater microphones (hydrophones) are used to record marine soundscapes, which researchers analyze to determine the diversity of marine life within them. They can, for example, count the number of snaps per minute (カ) record in a particular soundscape to determine how many snapping shrimp live there.

(4) When the underwater sounds in a previously declining environment grow more lively, it is a clear indicator that an ecosystem is healing. So with improving underwater listening and recording technology, soundscape assessments will probably become integral\* to showing the complete picture of a restoration project's success. And as the catalogue of underwater sounds grows, scientists are even learning which sounds may help boost restoration efforts in specific ecosystems. "We call it 'Reef DJ,' where we learn how to mix the right track to get the recovery to happen in a particular place in the right way," Simpson says. (5) But the process involves a lot of trial and error. Using targeted sounds may attract some species while it repels others, or it may attract two conflicting species. A sound that attracts young oysters, for example, will not be helpful if it also attracts predators that eat them.

Thanks to advancements in artificial intelligence, however, researchers are no longer alone in analyzing this growing soundscape catalogue. "We've got a team in London now (キ) use artificial intelligence to classify these sounds so that we can listen to the ocean in real time," Simpson says. He adds that there soon may be (6) public systems that can broadcast these real-time records globally so that anyone can hear them. This could be useful to restoration efforts that rely on collaboration among scientists across specialties. It could even help scientists detect ocean habitats that are just beginning to decline so that restoration efforts can be deployed before the ecosystems are in real trouble. And if more civilians connect with ocean soundscapes via these public broadcast systems, the struggling ecosystems may receive even more support.

設問

- 問1 下線部（A）を英語に訳しなさい。
- 問2 下線部（1）を日本語に訳しなさい。
- 問3 下線部（2）を the case が指すものを明らかにして日本語に訳しなさい。
- 問4 （ア）～（キ）の単語をふさわしい形に変えて解答欄に書きなさい。
- 問5 下線部（B）を英語に訳しなさい。
- 問6 下線部（3）を日本語に訳しなさい。
- 問7 下線部（C）の日本語になるように以下の単語を並べ替え、2 番目、6 番目、13番目に当たる単語の記号を答えなさい。
- |           |           |               |             |          |
|-----------|-----------|---------------|-------------|----------|
| （ア） best  | （イ） call  | （ウ） determine | （エ） habitat | （オ） home |
| （カ） is    | （キ） place | （ク） the       | （ケ） to      | （コ） to   |
| （サ） sound | （シ） use   | （ス） which     |             |          |
- 問8 下線部（D）を英語に訳しなさい。
- 問9 下線部（4）を日本語に訳しなさい。
- 問10 下線部（5）の文について、① 筆者はどのようなプロセスを取り上げているのか、② またどのような理由でそのプロセスが “involves a lot of trial and error” と述べているのか、① については日本語40字以内、② については日本語80字以内で書きなさい。
- 問11 下線部（6）の public systems によって今後期待できると示唆されていることは次の（い）～（と）のどれか、3つ選びなさい。解答欄は問7の解答欄の右横にある。
- （い） 政府が公的な支援を主導する。
  - （ろ） Reef DJ による公共放送を世界中に配信できる。
  - （は） 専門分野を超えた共同の修復作業が行える。
  - （に） 衰退し始めた海洋生物の生息地を発見できる。
  - （ほ） 人工知能により海の音が聴けるようになる。
  - （へ） 多くの市民から支援を受けることができる。
  - （と） リアルタイムで海洋生物のサウンドスケープを楽しむ。

[ II ] Read the passage below and answer the questions that follow it.

As is well known, Japan leads the world in terms of its elderly population. Statistics published in September 2019 show that people aged 65 and older now <sup>(1)</sup>make up 28.4% of the population, the highest proportion ever and the largest percentage for any country in the world. At the same time, there is another less commonly noticed area in which Japan may also lead the world: its “solo” population of people living alone. According to population forecasts released in 2019, single people will make up nearly half of the Japanese population by 2040 (<sub>[a]</sub>counting as “single” both people who have never married and those separated from their spouse by divorce or death). As for household ( ア ), the number of single-person households will <sup>(2)</sup>swell to 39% of the total, while nuclear families consisting of parents and their children will represent just 23% of all households.

This ( イ ) in Japanese society started in the 1990s, which saw a steep rise in the number of people who remain unmarried at the age of 50. For 70 years after Japan’s first population surveys in the 1920s, the percentage of people unmarried at age 50 never rose above 5% for men or women. However, the unmarried population started to increase dramatically from 1990, rising to 23.4% for men and 14.1% for women by the time of the 2015 census\*. By 2040, it is estimated that <sup>①</sup>33% of men and <sup>②</sup>20% of women will remain unmarried throughout their lives. <sub>(あ)</sub>Proof that this is already happening can be found in the shrinking numbers of new marriages taking place each year. In 1973, 1.1 million couples got married. By 2018, this had fallen almost by half, to just 590,000 marriages.

This population trend has <sup>(3)</sup>prompted a widespread sense of crisis, and many people warn that the rapid increase in the number of unmarried people is unprecedented in Japanese history. But in fact, this is not the first time the phenomenon has occurred. <sub>(い)</sub>日本は、常にほとんど誰もが結婚する社会だったわけではない。 In fact, it was not until the end of the nineteenth century that Japan was in a situation where almost everyone got married. Before that, it was not uncommon for people to go through life without getting married. In that sense, there are some surprising ( ウ ) of similarity between the Edo period and contemporary society.

In 2015, 54% of people aged 20 to 59 were married. This is similar to the proportion of married people aged 16 to 60 in 1865, at the very end of the Edo

period. In those days, farmers, merchants, and craftsmen from all around the country were <sup>(4)</sup>drawn to the capital in huge numbers in search of fortune. <sup>[b]</sup>Men outnumbered women two to one—a situation with similarities to the male surplus we see in the population today, with around 3.4 million more unmarried men than unmarried women.

Divorce is today common in Japan, with 33% of all marriages ending in divorce. But this is another area in which the Edo period <sup>(5)</sup>shows surprising similarities with the modern period. Back then, the divorce rate was 4.8 per 1,000 people—higher than the equivalent figure of 4.7 (in 2003) for Russia, the country with the highest rate of divorce in the world today. It is probably ( A ) the time.

Some aspects of the culture of the time seem to have <sup>(6)</sup>flourished precisely because Edo was home to so many single men. The fact that they were unable or unwilling to cook for themselves gave rise to the establishment of commercial restaurants on a large scale in the seventeenth century, earlier than anywhere else in the world. Carts moved through the city selling familiar items of Japanese cuisine such as *sushi* and *tempura*, which were probably <sup>(7)</sup>viewed in the same way we would now view fast food. The *izakaya* pub/restaurant also dates to this period.

There were even early ( 𠬪 ) of the “idols” and “maid cafés” that are part of the contemporary scene in Akihabara today. The *kibyōshi* that were the precursors\* to modern *manga* also date from this time. Many men in Edo remained unmarried throughout their lives and did not leave any ( オ ) behind. Instead, their ( カ ) was the various forms of popular culture that are enjoyed around the world today.

Japan is famous as an apparently inexhaustible source of *otaku* culture. *Manga*, *anime*, and *cosplay* have moved far from their Japanese roots and become popular around the world. It is more or less a given\* that any society with large numbers of single people will give rise to a consumer culture that <sup>(8)</sup>serves as an alternative route to happiness for people without families. This was true in Edo three centuries ago and remains true in Tokyo today.

<sup>(5)</sup>The idea that everyone should get married and stay with their spouse for the rest of their life is a recent innovation with a history of little more than 100 years. The situation we see today, marked by a high percentage of single people and widespread divorce, is in fact a ( キ ) to what was the norm throughout most of Japanese history.

## Questions

- 1 For each of the underlined verbs marked ( 1 ) to ( 8 ) in the passage, select one with a similar meaning from the following list that could be used to replace it. Write your selections in the correct form on the answer sheet. Each verb in the list may be selected only once.

attract	bring about	comprise	function
grow	have	regard	thrive

- 2 Referring to the underlined part marked [ a ] in the first paragraph, explain in Japanese how “single people” were defined for the purposes of the population forecasts released in 2019.

- 3 Select one noun from the list below to fill each of the blanks marked (ア) to (キ) in the passage. Write your selections in the correct form (singular or plural) on the answer sheet. Each noun in the list may be selected only once.

composition	decline	descendant	legacy	point
prototype	reversion	role	shift	

- 4 Give two other ways to express each of the underlined percentages marked ① and ② in the second paragraph.

- 5 Translate the underlined sentence marked (あ) into Japanese, making it clear what “this” refers to.

- 6 Rearrange the words below in the correct order to translate the underlined Japanese sentence marked (い). Write the 4th, 8th, and 12th words on the answer sheet.

a    all    always    but    in    Japan    marriage    not  
society    universal    was    was    which

- 7 Translate the underlined clause marked [ b ] in the fourth paragraph into Japanese, and then explain in no more than 50 Japanese characters what reason is given in the text to account for that situation.

- 8 The words below are from the blank space marked (A) in the fifth paragraph. Rearrange them in the correct order and write the 3rd, 7th, and 13th words on the answer sheet.

any at common country divorce in in Japan  
more other safe say than that to was

- 9 Translate the underlined sentence marked (う) into Japanese.
- 10 According to the passage, are the following statements true or false? On the answer sheet, indicate those you consider to be true with an A, and those you think are false with a B. If you think it is impossible to tell from the passage whether a particular statement is true or false, indicate this with a C.
- (1) Japan has a higher proportion of people aged 65 or more than any other country.
  - (2) No country has a higher percentage of unmarried people than Japan.
  - (3) Fewer than half as many people got married in Japan in 2018 as in 1973.
  - (4) Viewed historically, the high proportion of unmarried people in Japan today is unusual.
  - (5) Japan had a very high divorce rate in the Edo period.
  - (6) A high rate of unmarried people in a country's population can be seen as advantageous to the development of new types of popular culture.
  - (7) The notion that being stably married is a precondition for a happy life is one that Japanese people have taken for granted for centuries.

[Ⅲ] According to a government study published in 2019 (i.e., before the Covid-19 pandemic), only 32% of young Japanese had any interest in spending time studying overseas, which was the lowest rate among the seven countries studied, namely the United States, Britain, France, Germany, Sweden, South Korea, and Japan. Write 100 words or so in English to explain some possible reasons for this result.



## NOTES

<b>bustling</b>	full of activity
<b>census</b>	an official survey of the population of a country that is carried out in order to find out how many people live there and to obtain details of such things as people's ages and jobs
<b>given</b>	an assumed fact
<b>integral</b>	Something that is an integral part of something is an essential part of that thing.
<b>precursor</b>	a person or thing that comes before somebody/something similar and that leads to or influences its development

Adapted from *Collins COBUILD English Dictionary for Advanced Learners* (3rd ed.) and *Oxford Dictionary of English* (2nd ed. rev.)

[出典] 以下の資料に基づく

- [ I ] Ally Hirschlag, "Sounds of a healthy ocean can bring degraded marine ecosystems back to life," *The Washington Post*, 5 February 2022.
- [ II ] Arakawa Kazuhisa, "A Community of Connections: Looking Forward to the Solo Society," *nippon.com*, 13 January 2020.