

英 語

[理学部・工学部・農学部・水産学部]

注 意 事 項

1. 「解答始め」の合図があるまでこの冊子は開かないこと。
2. この冊子は表紙を除いて15ページである。
3. 「解答始め」の合図があったら、まず、黒板等に掲示又は板書してある問題冊子ページ数・解答用紙枚数・下書き用紙枚数が、自分に配付された数と合っているか確認し、もし数が合わない場合は手を高く挙げ申し出ること。次に、学部名・受験番号・氏名を必ずすべての解答用紙の指定された箇所に記入してから、解答を始めること。
4. 解答は、必ず解答用紙の指定された箇所に記入すること。

1

次の英文を読み、設問に答えなさい。

People have been coming upon fossils for thousands of years. Originally, the word 'fossil' just meant 'anything dug up,' so 'fossils' might be old coins, pieces of pottery, or a nice quartz rock. But many of these objects buried in the earth looked like the shells, teeth or bones of animals, and gradually 'fossil' came to mean just these things that looked like bits of creatures. Shells of sea animals were sometimes found on mountain tops, far from the sea. Often the stony bones, teeth and shells didn't seem to be like those of any known animal. In the 1600s, when naturalists began to puzzle about what had been found, they developed three sorts of explanation. First, some believed that these shapes had been produced by a special force within nature, striving, but failing, to create new kinds of organisms. They were similar to living plants and animals, but hadn't quite⁽¹⁾made it. Secondly, others argued that fossils were really the remains of species of animals or plants that had simply not yet been discovered. So much of the earth itself remained unexplored, that these creatures would eventually be found in remote parts of the world, or in the oceans. A third group of scholars dared to suggest these organisms were⁽²⁾ creatures that had once been alive but were now extinct. If that was true, then the earth must be much older than most people thought.

It was not until the eighteenth century that the word 'fossil' got its modern meaning, that of the petrified remains of a plant or animal that had once been alive. The realisation of what this meant began to dominate scientific thinking. The scientist who convinced the world that some animals had become extinct was a Frenchman, Georges Cuvier (1769-1832). Cuvier was very good at anatomy, especially comparing the anatomy of different kinds of animals. He had a special interest in fish but also a vast knowledge of the whole animal kingdom. He dissected hundreds of different animals, then he compared the different parts of their bodies and explored what all their organs did. He argued that animals are living machines in which every part has its proper purpose. He also noticed that everything in an animal's body worked together. For instance, animals that eat meat have canines (sharp teeth), which permit them to tear the flesh of their prey.

They have the correct digestive system, muscles, and all other characteristics they need to catch and live on meat. Those that graze on plants, like cows and sheep, have teeth with flattened ends, which help in grinding grass and hay. Their bone structure and muscles are for standing around rather than running and pouncing.

Cuvier's belief that animals are so beautifully constructed that the whole fits together in harmony made it possible for him to say a lot about an animal's structure and mode of life just by looking at one part of it. Find a canine tooth and you have found a carnivore, he said, and he would apply the same principles to fossils. With another anatomist he undertook a thorough investigation of the fossils found around Paris. They discovered that the fossils often resembled parts in living animals that could still be found in the area, but in many cases the teeth and bones had small, but b, differences. By chance, the frozen remains of a large elephant were found in Siberia. Cuvier examined this 'woolly mammoth,' as it was called, and argued that it was not only unlike any known living elephant, but that an animal of this size would surely have been noticed before, were it still roaming around somewhere. So it must (A) become extinct.

When they accepted the idea that some species of animals (and plants) were now extinct, it was much easier for naturalists to interpret the large numbers of fossils that were then being uncovered.

(An excerpt from *A Little History of Science: Ch. 23, "Digging Up Dinosaurs"* by William F. Bynum, Yale University Press, 2012, pp. 134-135. Kindle version.)

- (注) strive : 奮闘する petrified : 石化した
anatomy : 解剖学 dissect : 解剖する
pounce : 飛びかかる canine tooth : 犬歯
carnivore : 肉食獣 woolly mammoth : マンモス
roam : 歩き回る

設 問

(1) Fossil についての議論が 1600 年代に始まる前に, fossil という語が有していた二つの意味を日本語で簡潔に答えなさい。

(2) 下線部(1)の表す内容として最も適切なものを, 以下の選択肢から選んで記号で答えなさい。

- (ア) All successful revolutionary volunteers are fossils.
- (イ) Fossils are examples of unsuccessful transformation.
- (ウ) Fossils are man-made models of plants and animals.
- (エ) Fossils are related to regional development activities.

(3) 下線部(2)について, 第 3 の学説によると化石として発掘された生物はどのような生物であるか。日本語で説明しなさい。

(4) 前後の文脈から判断して, に入る最も適切な語句を, 以下の選択肢から選んで記号で答えなさい。

- (ア) existential (イ) natural (ウ) various (エ) vicious

- (ア) indifferent (イ) large (ウ) negligible (エ) significant

(5) 下線部(3)の意味を日本語で説明しなさい。

(6) 前後の文脈から判断して, 空欄 (A) に入る最も適切な単語を答えなさい。

試験問題は次に続く。

2

次の英文を読み、設問に答えなさい。

Since lockdown, public interest in growing fruit and vegetables at home has soared. Seed packets are flying off shelves and allotment waiting lists are swelling, with one (1) council receiving a 300% increase in applications. Fear of food shortages will have motivated some, but others with more time on their hands at home will have been tempted by the chance to relieve stress doing a wholesome family activity.

The seeds of enthusiasm for home-grown food may have been sown, but sustaining this is essential. Urban farming has much to offer in the wake of the pandemic. It could help communities boost the resilience of their fresh fruit and vegetable supplies, improve the health of residents and help them lead more sustainable lifestyles.

Here are four reasons why food growing should become a perennial feature in our gardens, towns and cities after COVID-19.

More than half of the global population lives in urban areas, and this is expected to rise to 68% by 2050. For the UK, this is even higher — nine out of 10 people are expected to live in towns and cities by this time.

Weaving food growing into the fabric of urban life could bring greenery and wildlife closer to home. The COVID-19 lockdown helped reawaken interest in growing at home, but one in eight UK households have no access to a (A). Thankfully, the opportunities for urban farming extend beyond these: rooftops, walls — and even underground spaces, such as abandoned tunnels or air raid shelters, offer a range of options for expanding food production in cities while creatively redeveloping the urban environment.

Edible rooftops, walls and verges can also help reduce flood risk, provide natural cooling for buildings and streets, and help reduce air pollution.

Diversifying where and how we grow our food helps spread the risk of disruption to food supplies.

The UK's reliance on imports has been growing in recent decades. Currently, 84% of fruit and 46% of vegetables consumed in the UK are imported. Brexit and COVID-19

could threaten the steady supply, while the problems created by climate change, such as water scarcity, risk disrupting imports of food from abroad.

⁽²⁾ Growing fruit and vegetables in towns and cities would help resist these shocks. The harvest labour shortages seen during the pandemic might not have been felt as keenly if urban farms were growing food right where people live.

Vertical and underground crops are more resilient to extreme weather or pests, (B) growing environments are easier to control than those in the field, and temperature and humidity is more stable underground. ⁽³⁾ The high start-up costs and energy bills for this type of farming has meant that indoor farms currently produce a small number of high-value crops, such as leafy greens and herbs. But as the technology matures, the diversity of produce grown indoors will expand.

Getting out into nature and gardening can improve your mental health and physical fitness. Our research suggests that getting involved in urban food growing, or just being exposed to it in our daily lives, may also lead to healthier diets.

Urban growers may be driven to make healthier food choices for a whole range of reasons. They have greater access to fresh fruit and vegetables and getting outdoors and into nature can help reduce stress, making people less likely to make unhealthy food choices. Our study suggested that urban food growing can also help ⁽⁴⁾ change attitudes towards food, so that people place more value in produce that's sustainable, healthy and ethically sourced.

While urbanisation is regarded as one of the biggest threats to biodiversity, growing food in towns and cities has been shown to boost the abundance and diversity of wildlife, as well as protect their habitats.

(Excerpted and adapted from the article in *The Conversation* [<https://theconversation.com/global>] by Dan Evans and Jess Davies, published online on August 26, 2020. The last access date is August 20, 2022.)

(注) packet : 包み	allotment : 耕作貸付地
sown : sow (種をまく) の過去分詞形	resilience : 回復力
perennial : 永続する	air raid shelter : 防空壕
edible : 食べられる	verge : 敷地間の境界
Brexit : 2020 年の英国の EU からの離脱	pest : 害虫
energy bill : エネルギー費用	source : 供給する
biodiversity : 生物多様性	habitat : 動植物の生息環境

設 問

- (1) 下線部(1)によれば、農作物を育てることが人気になっているために、どのようなことが起きているか。日本語で説明しなさい。
- (2) 前後の文脈から判断して、空欄 (A) に入る最も適切な単語を、以下の選択肢から選んで記号で答えなさい。
- | | |
|----------------|--------------|
| (ア) garden | (イ) hospital |
| (ウ) university | (エ) zoo |
- (3) 下線部(2)と同じ意味の語句を、英語二語で本文中から抜き出して答えなさい。
- (4) 前後の文脈から判断して、空欄 (B) に入る最も適切な単語を、以下の選択肢から選んで記号で答えなさい。
- | | |
|--------------|----------------|
| (ア) exterior | (イ) horizontal |
| (ウ) indoor | (エ) vegetarian |

(5) 下線部(3)の結果として、現在起こっていることは何か。本文の内容に即して最も適切なものを、以下の選択肢から選んで記号で答えなさい。

(ア) Farming is becoming very popular among young people.

(イ) Not many kinds of vegetables have been produced.

(ウ) Power plant workers tend to hold many strikes.

(エ) Start-ups are getting critical of the government.

(6) 下線部(4)の食べ物に対する態度が変化するとどのようなことか、本文中で述べられていることを日本語で答えなさい。

3

次の各文の()に入る最も適切な語句を一つ選び、記号で答えなさい。

- (1) A: Can you figure () what the author is trying to say in this essay?
B: I think I do. She should make it clearer, though.
- (ア) in (イ) into
(ウ) off (エ) out
- (2) Their business seems to have taken (). It is a good sign for the entire economy of the country.
- (ア) about (イ) after
(ウ) for (エ) off
- (3) Due to the railway service delays, we () in Kagoshima until much later this evening.
- (ア) arrive (イ) can arrive
(ウ) should have arrived (エ) won't be arriving
- (4) Are you sure we didn't make () mistakes in our calculations?
- (ア) any (イ) enough
(ウ) few (エ) sufficient
- (5) I () how to play the piano by watching YouTube videos.
- (ア) am taught (イ) learned
(ウ) was known (エ) was told

(6) A: Is this your scooter?

B: Yes, it is.

A: How long () it?

B: It's new. I bought it last week.

(ア) do you have

(イ) had you had

(ウ) had you have

(エ) have you had

(7) It doesn't () where he goes; they will always be together.

(ア) bother

(イ) concern

(ウ) matter

(エ) mind

(8) A: Makiko is bringing hamburgers to the party.

B: That doesn't () sense. She said she is a vegetarian.

(ア) give

(イ) look

(ウ) make

(エ) sound

(9) A: Any plans for this weekend?

B: Nothing (). I'll just stay home and play video games.

(ア) at hand

(イ) for granted

(ウ) in particular

(エ) of the kind

(10) Masa is (), so he never gets angry.

(ア) diligent

(イ) easygoing

(ウ) outgoing

(エ) pessimistic

4

次の対話の下線部(1)～(4)の日本語を英語に直しなさい。

A: I love your shirt. Where did you get it?

B: Thanks! I got it from a flea market app.

A: Sounds interesting. Do you use it often?

B: Yes, I try not to buy from fast fashion brands. 最近(1)は服が安く手に入るから、みんなたくさん買って簡単に捨ててしまう。 Because of this mass-consumption lifestyle, ファッション産業は環境問題の増加に責任があると言われてい(2)るんだ。 Also, there are other problems with the industry such as exploitative working conditions.

A: Well, I love fast fashion but I donate my clothes eventually, so I don't waste them.

B: Yes, but there are too many donated clothes now, so そのうちほとんどは結局ゴミ(3)として廃棄されてしまうんだよ。

B: No way! そもそもたくさん買わないようにしないとね。(4)

A: Yes. Also, if you can take good care of your clothes and use them longer, then you don't have to buy new ones so often.

(注) a flea market app : フリマアプリ

fast fashion brands : 流行を素早く取り入れて短いサイクルで衣料品を大量生産し、低価格で販売するブランド

exploitative : 搾取的な

試験問題は次に続く。

5

次の英文を読み、設問に答えなさい。

Japan has long had a love affair with the PET bottle — both full and empty.

The clear, strong and lightweight plastic outperformed aluminum, steel and glass to hold 76% of all nonalcoholic drinks in the country in 2020, according to the Japan Soft Drinks Association (JSDA). And, (A) a proactive industry, stringent laws and compliant consumers, Japan was among the top countries in the world for PET bottle collection in 2021, at 93%, and recycling, at 89%, according to the Council for PET Bottle Recycling.

Still, growing environmental awareness has put the consumption of single-use plastic under a harsh spotlight. Even with steps to reduce the volume of fossil fuel-derived PET required for new bottles, there remain calls for more to be done.

(中略)

As part of efforts to support the recycling process, beverage and PET bottle manufacturing companies published Industry Voluntary Design Guidelines in 1992. Under the recommendations, bottles were to be clear and made solely of PET, with no direct printing on them; caps were to be made only of plastic and labels were to be easily removable by hand.

Shunichi Nasu, general manager of the business planning division at the JSDA, says the “foresight” and “great decisions” of the industry leaders who made those guidelines has helped Japan far exceed the PET bottle recycling rate of the European Union (58%) and the United States (28%).

However, the JSDA, whose industry members collaborate on common, noncompetitive issues such as recycling, wants to do more. It is working toward 100% collection, which would increase the recycling rate even further. One key way to achieve this is by reducing ⁽¹⁾ contamination of bottles before collection.

a the 665,000 tons of PET bottles collected in 2019, 46% were picked up by municipalities and 54% came from the “business route,” which includes factories, offices, schools and recycling boxes at vending machines.

Today, PET from homes is predominantly clean (rinsed, with cap and label removed), unlike many collections from the business route. Large organizations also perform well, while buildings shared by numerous small and mid-sized enterprises tend to have less sorted recycling, says Nasu. Street collections fare worst.

In 2020, more than 30% of the content in recycling boxes by vending machines in the Tokyo area were non-PET, namely tobacco packaging (28%), alcohol containers (22%) and daily living waste (19%).

The problem also extends to the rest of Japan. According to Miho Hayashi of the Kanagawa Prefecture-based IGES Centre Collaborating with UNEP on Environmental Technologies, the disposal of non-PET waste in bins located next to vending machines is “a challenge for increasing recycling” that has prompted many companies to consider “how to modify the design of such bins so that only PET bottles can be disposed of.”

Contamination renders PET bottle recycling expensive and difficult at best, and inefficient or impossible b. An estimated 30% of the PET bottles collected in Japan are exported, largely because they are too dirty to be used, Nasu says. If contaminants can be reduced or removed from bottles collected through the business route, there is a greater chance that more PET recycling can be done domestically.

(Excerpted and adapted from *Plastic love: Proliferation of PET bottles in Japan complicates a sustainable future* by Kathryn Wortley, *The Japan Times*, March 14, 2022, <https://www.japantimes.co.jp/life/2022/03/14/environment/japan-pet-bottles/>)

- (注) proactive : 先のことを考えた stringent : 厳格な
harsh : 厳しい beverage : 飲料
Industry Voluntary Design Guidelines : PET ボトル自主設計ガイドライン
contamination : 汚染, 汚れ municipality : 自治体
predominantly : 大部分は enterprise : 企業
IGES : 地球環境戦略研究機関 UNEP : 国連環境計画
render : ~を…の状態にする

設 問

(1) 前後の文脈から判断して、空欄(A)に入る最も適切な語句を、以下の選択肢から選んで記号で答えなさい。

(ア) as for

(イ) in spite of

(ウ) regardless of

(エ) thanks to

(2) 下線部(1)の this は何を指しているのか、日本語で答えなさい。

(3) 前後の文脈から判断して、 a b に入る最も適切な語句を、以下の選択肢から選んで記号で答えなさい。

a

(ア) At

(イ) In

(ウ) Of

(エ) On

b

(ア) all the way

(イ) at worst

(ウ) on the whole

(エ) with respect

(4) 本文で述べられている内容と一致するものを、以下の選択肢から選んで記号で答えなさい。

(ア) Contaminated PET bottles are rinsed and sent to other countries because they cannot be recycled in Japan.

(イ) The Japan Soft Drinks Association believes that the production and consumption of PET bottles should be restricted to some extent.

(ウ) Waste in trash cans next to vending machines is not always sorted well, and we need a solution to this problem.

(エ) We should collect as many clean PET bottles as possible so that they can be converted into some other materials.

(裏)

令和5年度個別学力検査等

問題訂正等用紙

以下のとおり、

問題冊子に訂正があります。

解答用紙に訂正があります。

補足説明があります。

科目名〔 英語 〕

下線部が修正箇所。

・ 9ページ 3 (1)

(誤) B: I think I do.

(正) B: I think I can.

・ 11ページ 4 問題文 12-13行

(誤) B: No Way!...

A: Yes. Also...

(正) A: No Way!...

B: Yes. Also...