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学力検査「英語」

（食農学類）

試験科目		ページ	解答用紙枚数	時間
英語	英語コミュニケーションⅠ，英語コミュニケーションⅡ，英語コミュニケーションⅢ，論理・表現Ⅰ，論理・表現Ⅱ，論理・表現Ⅲ	1～8	2枚	2科目で120分

注意事項

1. 試験開始の合図があるまで，この問題冊子を開いてはいけない。
2. この問題冊子は8ページある。印刷不鮮明の箇所などがある場合には，監督者に申し出ること。
3. あらかじめ届け出た試験科目と問題冊子が一致しているか確認すること。
4. **解答**はすべて別紙の解答用紙に記入すること。
5. 解答用紙の指定欄には必ず**氏名**および**受験番号**を記入すること。
6. 解答用紙の評点欄には何も記入しないこと。
7. 解答用紙は持ち帰らないこと。

英　　語

I　次の英文は，気候変動の被害への社会の対応のあり方についての論説を一部抜粋したものである。これを読み，下の設問(1)～(4)に日本語で答えなさい。

Damages due to climate changes are deeply and profoundly unequal. They are unequal globally; with poorer nations hit hardest, which is well known. It is so unfair that those nations least responsible are the ones hardest hit.

But climate losses are also deeply unequal at a domestic level too. Climate change has a big impact on inequality when we look at heat stress. Very high temperatures are experienced very differently depending on a person's wealth. One study based in a developing country found that the average temperature difference between properly and poorly constructed housing was 7.6 ℃. A 50-degree day on average feels very different in an air-conditioned house in the suburbs than it does in a tin shack[1] in the same country's slum, which functions like an oven. This is the case in developed countries too; another study in a different country found that people living in poverty in that nation were much more likely to die because of extreme temperatures.

Climate-driven inequality also has an impact on the scale of these kinds of losses. In economic terms, richer people may have more to lose — but it is always the less-wealthy whose losses are proportionally[2] greater. The World Bank found that in 92 countries, the relative income losses for the lower 40% are 70% higher than those of the average population. Poorer people also take much longer to recover because they have fewer resources to do so with. The poorest people don't have many savings or assets to help them, and those who do tend to be set in one place, like a house, or crops or livestock or land — things that can be destroyed, killed or swept away.

The richest can afford to live in better-built houses and on land much less prone to floods or other disasters. Their property is more often registered and insured. They have diversified assets, with money in the bank. Their incomes

are not as dependent on agriculture. Rich people may barely notice a doubling of food prices. In short, while never fully protected, the richest in every society are much better able to deal with the impact of climate change.

These immediate privileges, in the face of more frequent weather-related disasters, drive up long-term inequality. This was modelled in a research paper that projected how climate change would increase economic inequality within every country in the world. I think that the main impact of climate-related inequality is political. Rich countries have been slow in tackling climate change simply because they haven't felt its impact as much as poor countries. I can see this happening within countries too — for exactly the same reason. (a) Because the richest are relatively protected, they are less likely to support or indeed fund (through taxes) the kind of national actions needed to protect all of society from climate breakdown.

More equal societies can have greater levels of trust and solidarity, attributes vitally needed in our new age of climate breakdown. A more equal society at its best not only redistributes risk across society, but in so doing reduces that risk overall. (b) I think that more equal societies, where risk is more evenly distributed, demonstrate the best forms of adaptation to climate breakdown. Not only is there more trust and solidarity, more equal societies are more likely to have systems, like progressive taxation[3], universal social protection[4], or universal public services, that make them more resilient against disasters. Equal societies are arguably able to face this new age of extreme weather in ways that both minimize the impact while maximizing the ability of everyone, rich and poor, to cope.

【Adapted from *EQUALS* (2023). "Locusts, disasters and the other side of climate inequality."】

［注］ 1. shack：粗末な小屋
2. proportionally：相対的に
3. progressive taxation：累進課税
4. universal social protection：万人向けの社会的保障

[設問]

(1) 第2段落で途上国と先進国の例を挙げて著者は何を主張しようとしているか，簡潔に説明しなさい。

(2) 本文では，なぜ貧しい人々は気候変動による損害から回復するのに豊かな人々よりも時間がかかると説明されているか，具体的に説明しなさい。

(3) 下線部(a)を日本語に訳しなさい。

(4) 下線部(b)とあるが，リスクがより均等に分散された平等な社会というものは，気候変動に対してどのように機能しうると本文中で説明されているか，具体的に説明しなさい。

（このページは空白です。問題は次のページに続きます）

Ⅱ 次の英文は，細胞の培養により人工的に作られる甲殻類の食材(本文中では cultivated seafood や lab-grown crustacean と表現)とその製造に関する 2023 年時点での文章である。これを読み，下の設問に答えなさい。

Sandhya Sriram was eager. The stem-cell[1] scientist wanted to put her knowledge to use by developing cultivated seafood, but no one was doing that in Singapore. So four years ago, she set up a company to create lab-grown crustacean meat. Eagerly, she registered her company, Shiok Meats, at 3 a.m. in August 2018. "Nobody was doing crustaceans," says Sriram, Shiok's Group CEO and co-founder. "What do Asians eat the most? Seafood. It was a simple answer... And they're so delicious."

Shiok Meats has already revealed shrimp, lobster, and crab prototypes to a select group of testers, and it plans to seek regulatory approval to sell its lab-grown shrimp by April 2023. That could make it the first in the world to bring cultivated shrimp to diners, putting it at the forefront of the cultivated-meat race. Shiok Meats still needs to submit all the paperwork necessary and get regulatory approval, but the company hopes to see its products in restaurants by mid-2024, offering people a cruelty-free[2] and more environmentally-friendly option than crustaceans from farms.

Popularizing these products could help tackle some of the environmental impacts of crustacean production. Organic waste, chemicals, and antibiotics from seafood farms can pollute groundwater and coastal estuaries[3]. A 2018 *Nature* study found that production of crustaceans — measured by the weight of edible protein — can result in carbon emissions comparable to beef and lamb. And although shrimp and lobster accounted for only 6% of seafood (based on 2011 data), the study found they represented 22% of the industry's carbon emissions.

Asia consumes more seafood than any other region. Diversifying how and where the world gets its seafood will be crucial for feeding Asia's fast-growing

population, which is expected to increase by 250 million by 2030. Singapore's authorities, at least, are aware of the challenge. The Southeast Asian city-state — which lacks farmland and imports 90% of its food — is aiming to produce enough food to meet 30% of its nutritional needs by 2030 (up from less than 10% in 2021). Hoping to become Asia's food-tech capital, Singapore is focusing on innovations like plant- and cell-based proteins; these "require far less space and resources to produce the same amount of food as traditional food sources," said Bernice Tay, director of food manufacturing at Enterprise Singapore, a government agency that supports small businesses.

Ultimately, the company's goal of feeding the world will be dependent on other governments getting on board with lab-grown meat. Then there's the need to persuade consumers to eat the stuff. Price is also a barrier. The starting price for Shiok Meats' shrimp will be about two to four times the price for fresh or frozen prawns at the grocery store.

【Adapted from Amy Gunia (2023). "The Scientist Leading the Push to Bring Lab-Grown Seafood to Your Plate." *Time Magazine*.】

[注] 1. stem-cell：幹細胞
2. cruelty-free：動物を傷つけたり殺したりしていない
3. estuary：入り江

[設問]　下記の(1)～(4)について，文章の内容と合うように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。

(1) Sandhya Sriram set up a company that tries to

(ア) grow environmentally-friendly sea organisms.

(イ) help deal with paperwork that is necessary to get regulatory approval.

(ウ) provide people with seafood while minimizing animal cruelty.

(エ) make crustaceans that have less protein.

(2) According to the 2018 *Nature* study,

(ア) crustaceans have about the same weight of edible protein as beef and lamb.

(イ) carbon emissions from crustacean production are more than those from beef and lamb.

(ウ) carbon emissions from shrimp and lobster production are about the same as those from beef and lamb.

(エ) crustaceans accounted for 6% of the food industry in terms of carbon emissions.

(3) According to paragraph 4,

(ア) Asia's population will rise to as many as 250 million by 2030.

(イ) Singapore intends its food-tech industry to get ahead of other Asian countries.

(ウ) Singapore is now facing the challenge of lacking adequate food.

(エ) food technology makes the traditional food sources unnecessary.

(4) The success of Shiok Meats

(ア) is guaranteed because of the support from other governments.

(イ) depends partly on whether consumers will accept the lab-grown meat.

(ウ) will enable them to sell lab-grown meat at high prices.

(エ) is impossible because there are too many problems with lab-grown meat.

Ⅲ　次の(1)～(5)が正しい英文になるように，それぞれの(　　)の中の語句を並べ変えなさい。解答用紙には(　　)内のみ記入すること。

(1) Why did she (the, becoming, give, idea, up on, of) a writer?

(2) We (things, realize, don't, of, until, the value) we lose them.

(3) It (the, probably won't, before, long, be) rainy season sets in.

(4) It (be, the, seen, whether, remains, to) plan will work.

(5) Karina demanded that the (lent, she, returned, him, money, be) right away.