

平成 15 年度

神戸大学農学部第 3 年次編入学

試験問題 英語

(注意)

1. 5 問題 (I ~ V) をすべて解答すること。(各問題 20 点)
2. 解答用紙のみ提出すること。

1. 次の文を読んで以下の問いに答えなさい。

Food grain production in Pakistan and India has continued to increase since the 1970s while it has stagnated in Bangladesh, largely because of increased losses to climate extremes and land degradation. In India, the estimated total requirement for food grains would be more than 250 Mt by 2010; the gross arable area is expected to increase from 191 to 215 Mha by 2010, which would require an increase of cropping intensity to approximately 150%. Because land is a fixed resource for agriculture, the need for more food in India could be met only through higher yield per units of land, water, energy, and time – such as through precision farming. To ensure food security in the developing countries of south and southeast Asia, it is necessary to expand agricultural production, develop the food distribution system, and promote nutrition education, as well as expand the economy and adjust the distribution of incomes.

(Climate Change 2001: Impacts, Adaptation, and Vulnerability. IPCC 2001 より抜粋)

(注) Mt ; 10^6 ton, Mha ; 10^6 ha, arable ; 耕作可能な

問1. 1970年代以降、インドとパキスタンの穀物生産が増加を続けているに対し、バングラデシュの生産が停滞した理由を日本語で述べなさい。(4点)

問2. インドは2010年までに250Mt以上の穀物生産が要求され、その生産の達成には4つの要素の効率向上が必要とされています。その4つの要素を日本語で書きなさい。(各1点計4点)

問3. 下線部の food security にふさわしい日本語を書きなさい。(2点)

問4. 南アジア、東南アジアの発展途上国の food security を確実にするために必要なことは何ですか? 日本語で5つの箇条書きにしなさい。(各2点計10点)

II. 次の英文を読んで問1～5に答えなさい。

Global trade has been responsible for much of the spread of (A) species around the world. Species that are introduced to an ecosystem can become a problem if their new environment lacks a suitable predator for them or otherwise creates favorable conditions for their survival. These (A) species threaten biological diversity because they can compete native species for food or other resources. In fact, (a)they are considered the second greatest threat to biological diversity world-wide, after habitat loss. One of the most common methods of transportation for foreign species today is in cargo ships, particularly in (b)ballast water. Ships pick up ballast water at their points of origin to help stabilize the huge vessels on their long journeys overseas. But once the ships reach their destination, they often dump this water into the local harbor. The problem is that ballast water is a literal aquarium of sea life from the ship's starting point, containing fish, planktons, and even pathogenic microorganisms. Faced with ever-increasing world trade and changing climactic conditions that could prove favorable to some pathogens, we need to know how best to deal with (c)the problem.

注) predator: 捕食者

cargo: 貨物

literal: 文字通りの

aquarium: 水族館・養魚池

diversity: 多様性

vessel: 船体

favorable: 好ましい

pathogenic: 病原性の

問1. 本文中の(A)に入れるのに最も適切な英単語を下の語群から1つ選びなさい。(4点)

語群: domestic, original, invasive, local

問2. (A)の対語となる英単語を文中より1つ探し、記載しなさい。(4点)

問3. 下線部(a)を和訳しなさい。(4点)

問4. 下線部(b)の船への本来の役割を日本語で簡潔に述べなさい。(4点)

問5. 下線部(c)が示す内容を日本語で簡潔に述べなさい。(4点)

- Ⅲ. はじめの文章は、末期ガン患者である木田真穂子さんの闘病生活と医者との交流を記述したものです。2番目の文章はダンサーのサムさんと振り付け師ラッキー池田さんとの会話を書いたものです。これら2題の英文を読み、以下の設問に答えなさい。

Mahoko Kida, a student at a technical college in Sakai, Osaka Prefecture, died of cancer at age 21 in the summer of last year. In one of the letters she kept sending to the school until just before she died, she wrote: "A wig maker will come around tomorrow. At first, I hated the prospect of my losing hair, but (a) when it started, it didn't upset me so much as I had expected. In fact, when I think of what kind of wig I should choose, I find myself looking forward to the wig maker's visit."

At that time, she was almost blind. (b) In her last letter, Kida said: "Looking at an X-ray photo of my lungs, the doctor said, 'You can still breathe,' I thought: 'Well, yes, certainly.'... Goodbye. I will write again." Her classmates put together a collection of memorial essays this year.

prospect; 予想, wig; かつら (天声人語、1999/11/29)

問1. 下線部(a)を訳しなさい(5点)。

問2. 下線部(b)を訳しなさい(5点)。

"Some time ago, dancer Sam (known as the husband of singer Namie Amuro) and I had a talk about why we were able to survive in the world of dancing, "said television personality and choreographer Lucky Ikeda, 40. (c) "We had a difference about whether our survival was due to our talent or the efforts we put in. (d) But eventually we agreed that the fact that we didn't quit helped us most."

choreographer; 振り付け師, (天声人語、1999/11/29)

問3. 下線部(c)を訳しなさい(5点)。

問4. 下線部(d)を訳しなさい(5点)。

IV. 下記の英文を読んで、下記の設問に答えなさい。

You can freeze ice cream instantly with me. You can use me to create the fog you need for movie special effects. I come in handy if you're preserving animal cells or performing precision surgery. I can help you turn a humble metal into a superconductor of electricity. (a) In the future, I might even replace gasoline as the fuel for your car.

It's hard to believe, but these diverse achievements are made possible by one substance.

I am in abundant supply in the air around you; 74% of Earth's atmosphere is made up of my molecules. (b) If you've got enough refrigeration power, you can cool down me and condense me, in other words, turn me into a liquid.

So, how cold does it need to be to convert me to my liquid form? I change from a gas to a liquid at a temperature of -320°F . (c) This makes liquid me an exceptionally cold substance, almost as cold as the surface of the planet Pluto in the farthest corner of solar system.

It sounds like science fiction, but this freezing substance is actually being used by people every day.

(Riverdeep, 2001 より)

molecules : 分子, Pluto : 冥王星, solar system : 太陽系

問1. 下線部(a), (b), (c)を和訳せよ。(各4点, 計12点)

問2. What am I? (8点)

V. 次の英文を読んで問1～3に答えなさい

Many molecules appear in two forms that mirror each other – just as our hands mirror each other. Such molecules are called chiral. In nature one of these forms is often dominant, so in our cells one of these mirror images of a molecule fits "like a glove", (A) contrast to the other one which may even be harmful. (1)Pharmaceutical products often consist of chiral molecules, and the difference between the two forms can be a matter of life and death – as was the case, for example, in the thalidomide disaster in the 1960s. That is why it is vital (B) be able to produce the two chiral forms separately.

—中略—

(2)The Laureates have opened up a completely new field of research in which it is possible to synthesize molecules and material with new properties. Today the results of their basic research are being used in a number (C) industrial syntheses of pharmaceutical products such (D) antibiotics, anti-inflammatory drugs and heart medicines.

(2001年ノーベル化学賞プレスリリースより抜粋)

mirror 映す, 反射する chiral 対掌性の, キラルな pharmaceutical 製薬の
thalidomide サリドマイド vital 生命の, 致命的な, 重大な laureate 受賞者
antibiotic 抗生物質 inflammatory 炎症性の

問1. 文中の(A)～(D)に入る最も適当な前置詞を書きなさい。

(各2点 計8点)

問2. 下線部(1)を和訳しなさい。(6点)

問3. 下線部(2)を和訳しなさい。(6点)