英 語 記述用解答用紙

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(3)	(2)	(1)	部 6 週		問 2		Į.		
				(E.G.)	, , , , , , , , , , , , , , , , , , ,	3	(iv)	(iii)	(i)
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藤田医科大学 医学部 入学試験 英語

① 氏名を記入しなさい。

氏		
名		

記入上の注意

- 1. 記入は、○ の中を正確に塗りつぶして下さい。
- 2. 書き損じた場合には、プラスチック製消しゴムできれいに消して下さい。
- 3.用紙を、折り曲げたり汚さないで下さい。

良い例	悪い例
•	Ø G O

			解		答		欄		
	1	2	3	4	5	6	7	8	9
1	①	2	3	4	(5)	6	①	3	9
2	Θ	(D)	3	4	(5)	6	①	3	9
3	Θ	2	3	4	(5)	6	7	3	9
4	Θ	2	3	4	(5)	6	7	3	9
5	θ	2	3	4	⑤	6	①	(8)	9
6	θ	2	3	4	(5)	6	(8	9
7	Θ	2	3	4	⑤	6	9	3	9
8	Θ	2	3	4	(5)	6	((3)	9
9	Θ	2	3	4	(5)	6	7	8	9
10	Θ	2	3	4	(5)	6	0	3	9
11	Ф	2	3	4	(5)	6	Ð	3	(
12	Ф	2	3	4	(5)	6	7	3	9
13	Θ	2	3	4	(5)	6	①	(3)	9
14	Θ	@	3	4	(5)	©	①	(3)	9
15	Θ	2	3	4	(5)	6	7	3	9

② 受験番号を記入し、その下のマーク欄にマークしなさい。

受	験	番 号	欄
千 位	百位	十 位	— 位
0	0	0	0
0	0	Φ	Θ
2	2	2	2
3	3	3	3
4	4	4	4
⑤	5	(5)	(5)
6	6	6	6
⑦	\bigcirc	7	7
3	3	3	3
(9)	9	9	9

			解		答		欄		
	1	2	3	4	5	6	7	8	9
16	θ	②	3	4	⑤	6	(7)	3	9
17	Θ	2	3	4	(5)	6	①	3	9
18	Ф	②	3	4	(5)	6	0	3	9
19	Θ	2	3	4	⑤	6	①	3	9
20	θ	2	3	4	(5)	6	(3	9
21	Θ	2	3	4	⑤	6	0	(8)	9
22	θ	2	3	4	(5)	6	①	(3)	9
23	Θ	2	3	4	⑤	6	7	3	9
24.	Θ	2	3	4	(5)	6	7	(8)	9
25	Θ	2	3	4	(5)	⑤	7	3	9
26	θ	2	3	4	⑤	⑤	7	(3)	9
27	Θ	2	3	4	⑤	©	7	(3)	9
28	θ	7	3	4	⑤	6	0	(3)	9
29	Θ	2	3	4	(5)	6	7	(3)	9
30	θ	2	3	4	⑤	©	Ø	3	9

2023年度

一般後期入学試験

英 語

注意:第1問から第4問まではマークシートに解答しなさい。

第5問と第6問は記述用解答用紙に解答しなさい。

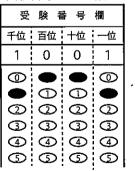
- マークシートの記入について(注意事項)・

1. 解答の作成には、H、F、HBの鉛筆を使用して正しくマークすること。 よい解答例 **●** (正しくマークされている)

悪い解答例 (マークが部分的で解答とみなされない)

- 2. 解答を修正する場合は、必ず「プラスチック製消しゴム」であとが残らないように完全に消すこと。
 - 鉛筆の色が残っていたり、「 」のような消し方などをした場合は、 修正したことにならないので注意すること。
- 3. 解答用紙は、折り曲げたりメモやチェック等で汚したりしないよう特に注意すること。
- 4. 受験番号欄の記入方法《受験番号記入例(右図)参照》
 - ① 受験番号を数字で記入する
 - ② 受験番号の数字を正しくマークする 正しくマークされていない場合、採点できないことがあります。

一 受験番号記入例 ー受験番号1001の場合



注:選択する数字は『O』から 順番に並んでいます。



		は、問題文の中の の解答記入欄に?		≥はマークシートの問番号を示して い。
第1問		D空所[1]~[番号をマークしな)に最も適切なものを(1)~(4)から 1
問 1.	He [1] the job	by the time we get	back to our office.	
	(1) did	(2) had done	(3) has done	(4) will have done
問 2.	He was very interes	ested in how cow's 1	milk was made [2	2] various other dairy products.
	(1) from	(2) into	(3) of	(4) with
問 3.	[3] number of injuries.	f people who were	on this train esca	ped from the accident with only minor
	(1) A	(2) Almost	(3) Most	(4) The
問 4.	Thanks to his doct	or's advice, he coul	d be [4] of his	alcohol addiction.
	(1) cared	(2) cured	(3) recovered	(4) saved
問 5.	The conflict between	en the two countrie	s is almost on the [5] of breaking out.
	(1) behalf	(2) case	(3) part	(4) verge
問 6.	The rescue team is	searching for the n	nan and his dog [6] were carried away by the river.
	(1) that	(2) what	(3) which	(4) whom

第2問	句を並べかえて	空所を補い、適切な	文を完成させなさい	うに下の(1)〜(7)の語 い。解答は [7]〜 し文頭にくる文字も小
問 1.	いっそ行かせてやった	たらいい。		
	[7	1 [8]	
		(2) go (6) well	(3) him (7) you	(4) let
問 2.	構成員は変わっても、	我々の理念が変わる	ことはなかった。	
	[9], our	. [10]	
		(2) has(6) philosophy		(4) members
問 3.	彼女はこの県で最初の	の女性知事だ。		
	[11] [12]	
	(1) ever(5) prefecture's	(2) first female(6) she	(3) governor (7) this	(4) is
問 4.	どうしてそんなに大	きな車を借りたの?		
		[14] car?	
	(1) a (5) that	(2) did (6) why	(3) large (7) you	(4) rent

第 3 問 Read the interview transcript and answer the questions that follow.

Interviewer:

I am joined today by a representative from Hakone-en Aquarium, an hour's drive southwest of Tokyo. Could you tell us about the situation that your aquarium has been facing?

Hakone-en Representative:

Our aquarium had always offered penguins and otters "aji," or Japanese horse mackerel, which the animals readily ate. However, inflation and rising prices have meant a change in diet for our penguins and otters.

Interviewer:

So even aquariums are not (為) the economic woes plaguing many economies across the globe. Why exactly did you need to make this change to their diet?

Hakone-en Representative:

The aquarium is home to 32,000 animals, and the price of aji has increased by 20% to 30% since last year. So to cut costs, in May, the aquarium switched to a cheaper alternative — "saba" or mackerel. We are also cutting costs by reducing the number of circulation pumps from two to one, which has reduced the electricity bill by 40% to 50%.

Interviewer:

I see. Would you characterize these cost-cutting efforts as successful?

Hakone-en Representative:

The switch to mackerel hasn't (VV) our penguins or otters. During a typical feeding session, if an aquarium employee waves a mackerel near a penguin, there's no reaction. When the employee moves the fish closer to its beak, the penguin turns away. If an employee tries to tempt an otter with mackerel, the otter sniffs the fish and then runs away.

Interviewer:

Wow. It's unexpected that penguins and otters would reject any fish. This seems like a hassle for the aquarium workers. Have you considered more forceful approaches to getting the animals to eat the mackerel?

Hakone-en Representative:

All of the animals at the aquarium are family, and we do our best to keep them healthy. We would never force any animal to eat what they don't want. Penguins and otters have their preferred type of fish, and our aquarium tries its best to accommodate their needs.

Interviewer:

Right. So, have you had any success handling this issue?

Hakone-en Representative:

Well, we had to get creative to encourage the animals to eat — for instance, the otters and penguins appear more willing to eat the mackerel when it is mixed with pieces of aji. Ideally, they would like to have a full aji, but they are patiently eating mackerel.

Interviewer:

Isn't it an easier alternative to just raise the aquarium's admission fee?

Hakone-en Representative:

We could raise the admission fee to the aquarium and fix this issue, but we would like to try to keep it at an affordable price for our guests. We do not have any plans to increase admission prices.

Interviewer:

I'm sure those who plan on visiting your aquarium are happy to hear that.

This interview transcript was created based on content in the following article: https://edition.cnn.com/travel/article/japan-hakone-aquarium-penguins-fish-intl-hnk/index.html

注 otter: カワウソ woe: 苦難 plague: ~を悩ます sniff: ~のにおいをかぐ hassle: 面倒

- 問 1. Based on the context of the interview, which phrase best fits (あ)? Write the number of your answer in [15].
 - (1) dealing with (2) immune to (3) to blame for (4) worried about
- 問 2. Based on the context of the interview, which phrase best fits (い)? Write the number of your answer in [16].
 - (1) affected how we feed (2) been noticed by any of
 - (3) been well-received by (4) caused issues with feeding

- 問 3. Which statement is the closest to what the Hakone-en representative mentions about the aquarium? Write the number of your answer in [17].
 - (1) Altering the animals' diets has enabled the aquarium to reduce electricity costs.
 - (2) It is unavoidable that the price of the aquarium's entrance fee will be increased.
 - (3) The aquarium cut costs by displaying mackerel swimming in tanks instead of aji.
 - (4) The cost of feeding the animals aji exceeds that of feeding the animals mackerel.
- 問 4. Which statement is the closest to what the Hakone-en representative mentions about feeding the animals? Write the number of your answer in [18].
 - (1) Animals in the aquarium have gradually started to prefer mackerel to aji.
 - (2) Employees have not had any reaction about changing what to feed the animals.
 - (3) It was necessary to come up with new techniques to get the animals to eat.
 - (4) The only way that employees can get the animals to eat now is by terrorizing them.

状ページに続く

第4問 Read the article and answer the questions that follow.

Researchers at the Department of Energy's Oak Ridge National Laboratory (ORNL) have developed a new method for producing a key component of lithium-ion batteries.

Lithium-ion batteries — used in products from appliances to cell phones, as well as in most electric vehicles — are composed of a cathode and an anode with an electrolyte in between. Ions move from anode to cathode through the electrolyte in a reaction that converts chemical energy to electrical energy.

The drive toward decarbonization and the demand for electric cars has increased the focus on sustainably producing energy-dense cathodes. However, conventional processing presents challenges.

The first obstacle is a reliance on cobalt, a rare metal mined and refined abroad. This dependence on foreign sources poses risks to American manufacturing supply chains and transportation infrastructure.

The availability of cobalt is not the only (🕉). The balance of other metals common in cathodes can also make the manufacturing process longer and more hazardous. For example, high nickel concentration has led to the widespread use of a chemical mixing method for cathode production that requires large quantities of ammonia for corrosive reactions. Using the toxic chemical increases costs, heightens health and environmental concerns, and wastes large amounts of water to reduce toxicity.

ORNL researchers report in the *Journal of Power Sources* that they have developed a cleaner, cheaper, more efficient method for making a new class of high-capacity cathode material without cobalt. Instead of continuously stirring cathode materials with chemicals in a reactor, their hydrothermal synthesis approach crystalizes the cathode using metals dissolved in ethanol. The ethanol is safer to store and handle than ammonia, and afterward it can be distilled and reused.

"This novel process offers the key advantage of moving the cathode industry to cleaner and more cost-competitive production while putting less burden on our environment," said ORNL's Ilias Belharouak, the principal investigator for the project.

The hydrothermal synthesis method is also much faster, said ORNL lead researcher Rachid Essehli. Using this method, the time required to make particles and prepare for the next cathode batch ().

In addition, the material produced has more uniform, round, tightly packed particles that are ideal for a cathode, Essehli said. Although the ORNL team has previously identified other cobalt-free combinations that work, the material developed through this study was better at maintaining stability throughout the battery charge cycle.

Because its properties are similar to those of today's cobalt-based cathodes, the new material can be seamlessly integrated into existing battery manufacturing processes. A patent is pending on the technology, which is ready to be scaled up for commercial production by industry, Essehli said. "This cathode material can give more energy and decrease the cost of electric car batteries," he said.

https://www.sciencedaily.com/releases/2022/12/221205121506.htm (改変あり)

注 cathode: 正極

anode: 負極

electrolyte: 電解液

et	ecarbonization: 脱炭素化 hanol: エタノール ending: 出願中の	corrosive: 腐食性の batch: 一組		al synthesis: 水熱合成 継ぎ目なく
問 1.	Based on the context of the answer in [19].	ne article, which of the follow	ving best fits (あ)? V	Write the number of your
	(1) benefit (2) c	complication (3) modifica	tion (4) similarity	
問 2.	Based on the context of to of your answer in [20	the article, which of the follo	owing best fits (V)? Write the number
	(2) drops from as many a (3) increases from 12 ho	ty of the rare metal cobalt as a few days to 12 hours ours to several days or more from the conventional meth	ood	
問 3.	Which statement is NOT your answer in [21].	true regarding the convention.	onal manufacturing proce	ess? Write the number of
	(2) It is slower and more(3) It needs large amoun	ironmental pollution probler e expensive than the new pro its of water to treat ammonia alt is mined and refined in the	ocess.	
問 4.	Which statement is true a your answer in [22].	about the new method develo	oped by ORNL research	ers? Write the number of
	(1) Ammonia dissolves i	more easily in water than eth	nanol and can be reused	in the process.

(3) The newly developed material can be integrated into the process of manufacturing batteries already

(2) ORNL researchers have developed the first battery that does not use cobalt in this study.

(4) The newly developed method has a longer but safer manufacturing process.

in use.

次ページに続く

この後の第5間と第6間は記述用解答用紙に解答しなさい。

第5問 次の英文を読み、後の問いに答えなさい。

The moment a person dies, their body begins to break down as cells wither and bacteria invade. But how long does it take for a body to fully decompose?

[**]

Although the process of decomposition starts within minutes of death, there are a number of variables, including the ambient temperature, soil acidity and coffin materials, which can affect how long it takes a body to skeletonize. However, on average, a body buried within a typical coffin usually starts to break down within a year, but takes up to a decade to fully decompose, leaving only the skeleton, said Daniel Wescott, director of the Forensic Anthropology Center at Texas State University.

A body buried without a coffin, which doesn't have protection from insects and other elements, typically skeletonizes within five years, according to Nicholas Passalacqua, an associate professor at the Forensic Osteology Research Station at Western Carolina University.

Decomposition itself is fairly straightforward. Once death occurs and oxygenated blood stops flowing, cells die; in a process called autolysis, cells release enzymes (especially those from the lysosomes, which contain digestive enzymes), which break down the cells themselves, as well as carbohydrates and proteins.

Putrefaction, or the decomposition of organic matter without oxygen by bacteria, fungi or other organisms, can turn parts of a body's skin green about 18 hours after death. This occurs simultaneously as bacteria in the abdomen rapidly multiply, creating gases that cause the body to bloat and smell. Putrefaction speeds up when the body is in a hot environment, which is why human remains are often kept in refrigerators until it's time for burial.

During this bloating stage, greenish-black blood vessels can be seen through the skin within about 24 to 48 hours of death. Eventually, the bloat collapses, and in a process known as black putrefaction, the body's organs and tissues soften, and life forms such as insects and microbes eat the remaining soft tissues, leaving the skeletal remains.

[5]

Decomposition significantly slows down at this skeletal stage, and it takes years or decades for the skeletal remains to disintegrate.

To delay decay, embalmers can drain the blood and other fluids from a corpse and replace it with embalming fluids they inject into the veins. These chemicals, which act as preservatives, stop the bacterial activity that breaks down the body. Although embalming is a common practice, some religions forbid it because it is considered a desecration of the body. "If they're embalmed, it can really change things," Wescott said.

【 え 】

For those who are embalmed and buried in a coffin, five to 10 years is a more typical decomposition timeline, he said. At that point, the tissue is gone and only bones remain.

The quality of the embalming job also plays a role, Wescott said. When he exhumed an embalmed body buried 15 years before exhumation, he discovered that it had skeletonized in part because the coffin had broken down. Another embalmed body he exhumed had been buried only a year, and "she looked like she just died, but had some mold growing on her," he recalled.

Location can have an impact, too. If a coffin is buried in acidic soil, it will erode faster, exposing the body to the elements, including insects, which aid the decomposition process.

【 お 】

There are a few other factors most people don't think about, Wescott said. In an outdoor setting, obese people initially decompose more rapidly in the beginning, but slow down compared with others later in the process because maggots prefer muscle tissue over fat. Chemotherapy and antibiotics used prior to death also can have a huge impact on decay, because both kill off some of the bacteria involved in the process.

【 か】

As odd as it sounds, the coffin's liner might also have an influence on the pace of decomposition, Wescott said. Some materials wick fluid away from the body and could cause it to dry out, and even mummify more quickly. If the material holds moisture, the body could become soaked in its own fluids and decompose more quickly.

https://www.livescience.com/how-long-bodies-take-to-decompose (改変あり)

注 decompose: ~を分解する

ambient: 周囲の

coffin: 棺

enzyme: 酵素

putrefaction: 腐敗

fungi: fungus (菌類)の複数

abdomen: 腹部

disintegrate: ボロボロになる

bloat: 膨れる、膨れ上がったもの

corpse: 死体

embalm: ~を防腐処理する

desecration: 冒涜

exhume: ~を発掘する

obese: 肥満の

maggot: 蛆

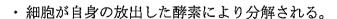
chemotherapy: 化学療法

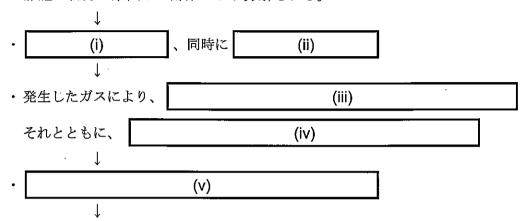
antibiotic: 抗生物質

liner: 内張り

wick: ~を吸い出す

問1.以下は、白骨化に至るまでに死体に生じる変化をまとめたものである。本文の内容に即し、 空欄を日本語で埋めなさい。





- ・残った軟部組織が昆虫や微生物に食べられる。
- 骨だけが残る。
- 問 2. 防腐処理を施す場合、どのようなことが行われるか、本文の内容に即して日本語で答えなさい。
- 問3. 死体の分解にかかる時間に影響する要因にはどのようなものがあるか、本文の内容に即し、 解答欄の3つの例に続けて日本語で全て挙げなさい。
- 問4. 次の段落は本文のどの位置に置くのが最も適切か、【あ】~【か】の記号で答えなさい。

As an example, he pointed to the case of slain civil rights leader Medgar Evers, who was buried in 1963 after being embalmed. When his body was exhumed for evidence in a 1991 murder trial, Wescott said, "his body was so well preserved that they let his son in to see him."

注 slain: slay (~を殺害する)の過去分詞 embalm: ~を防腐処理する

exhume: ~を発掘する

次ページに続く

第6間 次の英文を読み、下線部(1)~(3)の日本語の内容を英語にしなさい。

Guinea worm disease, an infection caused by the Guinea worm and associated with severe pain, is now one step away from being eradicated. The disease mainly affects remote parts of Africa, with the number of annual human cases hitting 3.5 million in the 1980s. (1) しかし、アメリカのある NGO が中心となってその病気を撲滅しようとしてきたおかげで、今年はその数が 8 月現在でわずか 6 例にまで減少している。

Yu Fujita, 47, an Osaka-based doctor who has worked in Togo in West Africa as a member of that NGO, said the disease, a symbol of poverty, must be swiftly and completely eliminated.

Fujita worked on Guinea worm disease eradication efforts in Togo as a member of the Carter Center from 2003 to 2004. She remembers when, not yet a licensed doctor, she helped treat a woman infected with Guinea worm disease in a village in northern Togo. Fujita said the woman screamed from the severe pain in her leg, and yelled, "It hurts more than giving birth!" Fujita held her down for treatment as she rolled about in pain.

Guinea worm is a parasite that lives mainly in sub-Saharan Africa. People become infected with Guinea worms by drinking unfiltered water from ponds and other stagnant water where the worms parasitize copepods, or "water fleas."

The worm grows inside humans, causing a blister to develop on the skin. The blister gradually increases in size, causing a burning pain. It can eventually rupture, exposing the worm.

There are no drugs to kill the worm or vaccinations to prevent infection. The only cure is to remove the worm from the wound.

(2) <u>その病気による死亡率は低いが、激しい痛みが長期間続き、感染者は仕事や家事がで</u>きなくなってしまう。

The infected person might put the affected body part in pond water to ease the symptoms. On contact with water, the worm discharges larvae into the water, spreading the infection.

"It was a cause of greater poverty for them," Fujita said.

The infection can be prevented by not drinking water that carries the worms, and efforts have been made to build safe wells and distribute filters to remove water fleas.

But it is not easy to change the lifestyles of locals. (3) <u>井戸が作られた後も、多くの住民は飲み</u>慣れている池の水のほうがおいしいと言って、それを使用しなかった。 In some cases, they continued to use filters after they were broken.

The Carter Center, founded by former U.S. President Jimmy Carter, has been leading eradication efforts since 1986, focusing on providing residents with easy-to-understand information about Guinea worm disease and how to prevent it.

Fujita and others explained the effects of filters in a narrative style through plays and picture-based storytelling. They also asked reliable villagers to be local leaders and to report infections as soon as they found them.

Thanks to such efforts, the number of infections has dropped dramatically.

https://japannews.yomiuri.co.jp/world/wider-world/20221008-63248/(改変あり)

注 stagnant: よどんだ

blister: 水疱

copepod: カイアシ類

rupture: 破裂する

water flea: ミジンコ

larva: 幼虫







Ţ

The second secon