

2024 年 度

英 語

注 意

1. 監督者の合図があるまでは問題冊子と解答用紙を開かないでください。
2. 別紙の解答用紙は、マーク用解答用紙(1)と記述用解答用紙(2)とに分かれています。指定された解答欄をまちがえないように注意してください。
3. 解答用紙(1)は直接コンピューターにかけますので、折りまげたり、よごしたりしないでください。また、枠で囲まれた部分以外には記入しないでください。
4. 解答用紙(1)にマークするときは該当する○にはっきりとマークしてください。

マークのしかた (良い例) ●
(悪い例) ◐ ◑ ◒ ◓

(万年筆、ボールペンなどは使用してはいけません)

5. 解答用紙(1)に誤ってマークした場合には、消しゴムで跡が残らないようにていねいに消し、消しかすをきれいに払ってください。
6. 試験開始後、解答用紙(1)には、氏名、受験番号を記入し、さらにその受験番号をマークしてください。なお、受験番号を記入するときには解答用紙(1)の〔**受験番号記入上の注意**〕をよく読んで、まちがいのないようにしてください。
解答用紙(2)には、氏名、受験番号を記入してください。
7. 試験問題はこの冊子の1～9ページに記載されています。
問題冊子の余白部分は、メモとして利用して構いません。
各問題はほぼ同じ配点になっています。それを念頭に時間配分してください。
8. 試験終了後、この問題冊子は持ち帰ってください。

- 1 次の文章を読み、設問(a)～(e)にもっとも適切なものを1～4の中から1つ選びなさい。

Nowadays, anyone can use software to create fake images, and these fakes are getting more and more realistic. The good news is that humans have a natural instinct for noticing fakes, according to Siwei Lyu, Professor of Computer Science at the University at Buffalo. Lyu belongs to a group of researchers using Artificial Intelligence (AI) to fight against AI. They have found that the best way to teach AI to find false images is to show it how humans do so.

Humans have been dealing with fake images for a long time. Image manipulation* has been with us almost as long as photography itself. What is new is how easy it is for someone without any special skill to create something that appears real, resulting in a scary number of artificial images wherever we look. But Lyu urges us not to panic. Here is how to use our natural instincts to notice things that are not quite right, and how to keep up with the lightning speed of AI progress.

The first step is to slow down. We are flooded with media all day and need as little as 13 milliseconds to recognize an image. That may be enough to recognize what it is, but not enough time to think about whether or not it is real. An image surprises us when it goes against what we know to be true, and we should not ignore that instinct. “Next time we see something interesting or funny, hopefully we will pause a little bit and think about it,” Lyu says. He suggests that if we notice something strange, we should not share an image. That way, we stop the problem there.

AI programs are trained to create realistic fake images by sampling a huge volume of real ones. Their weakness is that they do not know what details to pay attention to. This results in problems with details in fake images. For example, people in fake videos rarely blink*, because AI is mostly

trained with images of people who have their eyes open.

If there is a person in an image, Lyu recommends looking at their hands and eyes. Current AI programs aren't good at producing lifelike hands: they may have six fingers, or fingers that are all the same length or in an unnatural position. An AI-created fake image of Pope Francis wearing a fashionable "brand label" coat spread rapidly. But if you look closely at his hand, it looks odd, and he is holding his coffee cup from the top — a strange way to hold it, even if the cup was empty.

And why should we pay attention to eyes? According to Professor David Matsumoto, humans look at a person's eyes to tell friend from enemy and evaluate the emotional state of those we meet. We can use this natural tendency to check for things AI has trouble with, including the shape of the eyes and light reflections in the eyes.

Adapted from: Yang, A. (April 20, 2023). How can you tell if a photo is AI generated? Retrieved from <https://www.nationalgeographic.com/science/article/how-can-you-tell-if-a-photo-is-ai-generated-here-are-some-tips>

〔注〕 image manipulation イメージ操作 blink まばたきする

(a) The main topic of this passage is how _____.

1. AI can delete artificial images
2. AI can make artificial images
3. humans can detect artificial images
4. humans can make artificial images

- (b) According to the passage, which of the following is true?
1. AI battles against itself to look at a huge volume of real images.
 2. AI can make perfect fake images.
 3. Fake images cannot be recognized by humans.
 4. Fake images that appear real have been around for a long time.
- (c) The passage suggests our natural instincts become important when we _____.
1. are surprised by something unusual
 2. fear someone's hands and fingers
 3. sense that we are starting to panic
 4. think that things are moving quickly
- (d) What can we learn from the AI image of Pope Francis?
1. AI programs create images that are fashionable.
 2. AI programs have difficulty creating images of hands.
 3. The Pope does not like to drink coffee.
 4. The Pope has fingers that are all the same length.
- (e) Why are eyes important when evaluating images?
1. Because AI can create realistic images just by looking at a person's eyes.
 2. Because AI is trained with images of people with closed eyes.
 3. Because people regard everybody's eyes as naturally friendly.
 4. Because people use eyes to gain information about another person.

- 2 次の対話文を読み、設問(a)～(e)にもっとも適切なものを1～4の中から1つ選びなさい。

Two friends are talking in the kitchen.

Sarah: Hey, those look delicious! What are they?

Marcel: Protein balls made with cricket powder. Delicious and nutritious!

Sarah: Those have cricket powder in them? You mean cricket, as in the insect? Yuck! Why would you eat that?

Marcel: Don't knock it until you try it. Here, have one! Cricket protein is actually quite tasty. And not only is it good for you, but it's also good for the planet.

Sarah: Good for the planet?

Marcel: Yeah. Cows need about two and a half kilograms of food, and over 2,000 liters of water just to produce 100 grams of beef protein. Crickets only need 200 grams of food and under one liter of water to produce the same amount of cricket protein.

Sarah: Wow, that's quite a big difference!

Marcel: Right? Crickets also take up less space, can be raised much more quickly, and produce 100 times less greenhouse gas than cows. If everyone switched to cricket protein, it would be really good for our planet. I don't know why people don't see that.

Sarah: Well, even if people could see the benefits, I think there are still some problems. Like the fact that no one wants to eat bugs. They're creepy. And there's also the taste. You said they don't taste bad, but do they taste as good as beef? People really like beef. It would be hard to get them to stop eating it.

Marcel: Yeah, I suppose it will be a long time before we're all eating insects. Maybe if we feed them to our children now, in 20 years it'll be

easier to make the change.

- (a) What is this conversation mainly about?
- 1 . Advantages of an alternative food source.
 - 2 . How best to cook protein at home.
 - 3 . Insects that can create greenhouse gas.
 - 4 . Why beef is not very good for you.
- (b) When Marcel says, “don’t knock it until you try it,” what does he most likely mean?
- 1 . You should be quiet while someone is eating.
 - 2 . You should not ask questions about this food.
 - 3 . You should not eat this food until someone has tested it.
 - 4 . You should taste this food before you say it is bad.
- (c) According to Marcel, which of the following is true about cricket protein?
- 1 . It is a lot cheaper to buy than beef protein.
 - 2 . It is healthier for your body than beef protein.
 - 3 . It takes less water to produce than beef protein.
 - 4 . It tastes much better than most beef protein.
- (d) What does Marcel think about the future of cricket protein?
- 1 . It can change the world for the better, but it might take some time.
 - 2 . It does not taste so good, so people will not switch to it in the future.
 - 3 . People will find it expensive, so it will not become popular.
 - 4 . People will start eating it because there will be no cows in the future.

(e) Which of the following would Sarah likely agree with?

- 1 . People care more about the planet than the taste of their food.
- 2 . People do not really care much about the taste of their food.
- 3 . People will probably continue eating beef because of the taste.
- 4 . People will soon switch to eating cricket protein because it is healthy.

- 3 音楽療法について以下の文章はどのように説明しているか、150字～180字の日本語でまとめなさい。解答には(1)定義, (2)療法を受ける人の特徴, (3)音楽療法の種類, の3点を必ず含めること。

本文について、著作権許諾が得られていないため、掲載できません。

Adapted from: Heidersheit, A. (n.d.). What is music therapy? Retrieved from <https://www.takingcharge.csh.umn.edu/common-questions/what-music-therapy>

〔注〕 soothe the savage breast 怒りを和らげる
improvise 即興で作る

- 4 次のテーマで100～150語程度のエッセーを，具体例を挙げながら英語で書きなさい。

Write about a place that you have visited that changed the way you think.