

# 鳥取大学

## 英語

### 問題

#### 2018年度入試

【学部】 地域学部、医学部、工学部、農学部

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**1** 次の英文を読んで、以下の設問に答えよ。  
[Part 1]

On a Sunday afternoon in 2035, a man in Tokyo is consulting a robot on what he should eat for dinner.

“It seems that you have a heavy feeling in your stomach today; I suggest fish and vegetables,” the robot says, based on the man’s health data taken automatically from a device he is wearing. “I would suggest ordering a cabbage from this farm, as it matches your preference for natural food.”

“Okay,” the man says. Soon after the cabbage is delivered from the farm by drone, the robot installs a recipe data file to a cooking machine to prepare dinner for the man.

This is a scene of daily life that the government sees as the future of Japan’s “super smart society,” where all individuals can receive the services they need regardless of age, gender, region or language.

Japan has long been developing information technology and robotics\* powered by artificial intelligence (AI)\*.

The government believes technological advancement will create a much-needed boost for industries in Japan, where the shrinking workforce caused by the falling birth rate and an aging population is causing concern.

In the Japan Revitalization Strategy 2016\*, the government said it aims to cover the labor shortage by improving productivity in the industrial world through advanced technologies like AI.

Indeed, the expectation is high over the rise of advanced AI, which achieved some notable milestones in 2016.

In March, the AI-based computer program AlphaGo\*, developed by DeepMind\*, shocked the world when it defeated South Korean go grandmaster Lee Sedol\* in a five-game match of the ancient board game that requires deep insight.

And in August, it was learned that Watson, IBM’s artificial intelligence program, helped doctors rapidly discover a rare type of cancer that conventional tests had failed to detect — possibly the first case in Japan that an AI-powered program contributed to saving a patient’s life.

[Part 2]

However, at the same time some critics fear that smarter AI and robotics may put people out of work.

According to a report published jointly in December 2015 by Nomura Research Institute and Oxford University, researchers predicted that advanced robots and AI would replace about 49 percent of Japan’s workforce within 10 to 20 years.

The report further explained that jobs that didn’t involve special knowledge or skill — including taxi drivers, delivery workers and security guards — would be taken over by machines. Yet those jobs that require creativity and the ability to understand others — like economists, video game creators, teachers and writers — would remain in human hands.

Some experts, including Noriko Arai, a mathematician at the National Institute of Informatics\* believe the disturbing future predicted in the report is not impossible.

“The worst-case scenario is, from 2021, when the number of people aged 22 or below will drop off significantly, the world will be short of workers, but the number of unemployed will increase as well,” Arai said during an interview with The Japan Times.

[Part 3]

Arai has spent five years developing AI that aims to pass the entrance exam of Tokyo University, or *Today*. The ultimate aim of her <sup>(1)</sup>Today Robot Project was to investigate AI’s possibilities and limitations. At the same time, the project was a way to try and predict the future of an AI-enhanced society. As a result, Arai found that AI is good at answering fact-based questions — better than most test takers — because it can take advantage of the vast amount of information stored in its database to find answers.

However, AI failed to come up with correct answers requiring common knowledge not outlined in the question, because it merely output most likely answers after interpreting a question by identifying keywords and phrases. Therefore, AI cannot think creatively or have the kind of deep understanding humans have about the meaning of a question.

Despite <sup>(2)</sup>the limitations in the machine’s capabilities, Arai is concerned about the future because she found that many students lack the ability to think creatively — the thing that gives them an <sup>(3)</sup>edge over machines. She concluded that Japan needs to improve students’ reading comprehension — an area where AI has yet to catch up.

That is why last year she decided to pause her AI’s quest to enter Tokyo University, and instead focus on improving students’ scores on a multiple choice reading skill test developed by the project team to test their ability to think for themselves so that they can survive a society full of AI.

<sup>(4)</sup>The key thing would be whether people are able to exploit machines to supplement their abilities, rather than follow what machines tell them to do,” Arai said.

Arai’s view on how to survive an AI-powered society is also shared by Yutaka Matsuo, project associate professor at Tokyo University. He believes the essence of the change in society is not about

stealing human jobs, but about redefining tasks to allow people to focus on more creative things involving communication rather than the repetitive, boring labor that computers are better at performing.

“The important thing is to continue updating <sup>(5)</sup> their skills to keep up with changes in their tasks rather than to be satisfied with skills and knowledge they acquired in the first 20 years of their lives,” he said.

出典: Shusuke Murai, “A future of promise and obstacles as AI technology advances” (thejapantimes.com.jp, 17 January, 2017)上の英文は、抜粋の上、一部を変更している。

\*robotics ロボット工学 \*artificial intelligence (AI) 人工知能

\*the Japan Revitalization Strategy 2016 日本再興戦略 2016 \*Alpha Go 囲碁 AI ソフトウェア

\*DeepMind AlphaGo を作ったロンドンの AI 企業 \*Lee Sedol 韓国のプロ囲碁棋士、イ・セドル

\*the National Institute of Informatics 国立情報学研究所

問1 英文は Part 1 から Part 3 の三つの部分に分けられている。各部分の主旨を説明するものとして最も適切なものを以下の選択肢から一つずつ選び、番号で答えよ。

1. AI は、人々がより健康的な食べ物を選ぶ手助けをすることができる。
2. AI の進化は、失業者の増加に繋がる可能性がある。
3. AI は、テストの問題に正解することや囲碁の勝負において、人に勝っている。
4. 将来ロボットに取って替わられないためには、人々は思考能力を高める必要がある。
5. 政府は、AI の進化がビジネスや社会の改善に役立つだろうと期待している。
6. 著名な科学者たちは、AI によって動くロボットが東京大学の入試に合格する日が来るだろうと予想している。

問2 下線部(1)の二つの目的を日本語で説明せよ。

問3 下線部(2)の内容を説明する次の英文を読んで、(ア)から(エ)の各空所に入る適切な語を以下の語群から選び番号で答えよ。

To answer questions that require common knowledge, you need to deeply (ア) what they mean. Humans are (イ) at answering these kinds of questions. However, AI is limited to only searching for information based on the words and phrases in the question itself, not the deeper (ウ) of the question. Therefore, AI is (エ) at answering these kinds of questions.

- |           |             |                |            |
|-----------|-------------|----------------|------------|
| 1. common | 2. good     | 3. identifying | 4. meaning |
| 5. merely | 6. not good | 7. understand  | 8. write   |

問4 下線部(3)の単語はいくつかの意味を持っている。以下に示された辞書の定義と例文の中から、本文中で用いられた単語の意味として最も適切なものを選び、番号で答えよ。

1. 端, へり, 縁

They brought the country to the edge of ruin.

2. はずれ, 境界

There is an old church at the edge of the town.

3. (刃物の)刃, 刃の鋭さ

The blade has no edge.

4. (言葉・議論・欲望・悲しみ・皮肉などの)鋭さ, 痛烈さ, 激しさ, 効力

His mother gave him the edge of her tongue.

5. 優位, 優勢, 強み

He gained the edge on his opponent.

問5 下線部(4)を和訳せよ。

問6 下線部(5)が指すものは何か。以下の選択肢から適切なものを選び番号で答えよ。

- |                                  |                    |              |
|----------------------------------|--------------------|--------------|
| 1. Noriko Arai and Yutaka Matsuo | 2. people          | 3. computers |
| 4. human jobs                    | 5. creative things |              |



**2** 次の英文を読んで、以下の設問に答えよ。

Humans are a very moody species. Even though sadness and bad moods have always been part of the human experience, we now live in an age that ignores or reduces the importance of these feelings.

These days, normal human emotions like temporary sadness are often treated as disorders. Modern advertising and marketing like to promote the illusion that we can be happy whenever we want to. Yet bad moods remain an essential part of the normal range of moods we regularly experience.

It's time to re-assess the role of bad moods in our lives. We should recognise they are a normal, and even a useful part of being human. They help us cope with many everyday situations and challenges.

### A short history of sadness

In earlier historical times, feeling sad or moody for short periods of time was always accepted as a normal part of everyday life. In fact, many of the greatest achievements of the human spirit deal with experiencing and even cultivating negative feelings.

Greek tragedies exposed and trained audiences to accept and deal with inevitable misfortune as a normal part of human life. Shakespeare's tragedies are classics because they echo <sup>(1)</sup> this idea. And the works of many great artists such as Beethoven and Chopin explore the theme of sadness, a subject long recognised as educational and valuable.

Ancient philosophers have also believed accepting bad moods is essential to living a full life. Even pleasure-seeking philosophers like Epicurus\* recognised living well involves exercising wise judgement, self-control and accepting inevitable hardship.

### What is the point of sadness?

Psychologists who study how our feelings and behaviours have evolved over time maintain that all our moods and emotions have a useful role: they alert us to states of the world we need to respond to.

In fact, the range of human emotions includes many more negative than positive feelings. Negative emotions such as fear, anger, shame or disgust are helpful because they help us recognise, avoid and overcome threatening or dangerous situations.

But what is the point of sadness, perhaps the most common negative emotion, and one most psychologists deal with?

Mild, temporary bad moods may serve an important and useful purpose, by helping us to cope with everyday challenges and difficult situations. They also act as a social signal that communicates separation, retreat from competition and provides a protective cover. When we appear sad or in a bad mood, people often are concerned and are inclined to help.

Recent scientific experiments document the benefits of mild bad moods, which often work as automatic, unconscious alarm signals, promoting a more attentive and detailed thinking style. <sup>(2)</sup> In other words, bad moods help us to be more alert and focused in difficult situations.

In contrast, positive mood (like feeling happy) typically serves as a signal indicating familiar and safe situations and results in a less detailed, more relaxed processing style.

### Psychological benefits of sadness

There is now growing evidence that negative moods, like sadness, have psychological benefits.

To demonstrate <sup>(3)</sup> this, researchers first changed people's mood, for example, by showing happy or sad films, and gave them various tasks to complete. The researchers then measured changes in their performance in terms of thinking ability and behaviour.

Feeling sad or in a bad mood produces a number of benefits:

- ・ ( A ) : In one study, a bad mood (caused by bad weather) resulted in people better remembering the details of a shop they just left. Bad mood can also improve observer memories by reducing the effects of interference, like irrelevant, false or misleading information.

- ・ ( B ) : A mild bad mood also reduces some mistakes in how people form impressions. For instance, slightly sad people formed more accurate and reliable impressions about others because they processed details more effectively. They were able to detect lies more accurately and were less likely to rely on simple stereotypes.

- ・ ( C ) : Other experiments found that when happy and sad participants were asked to perform a difficult mental task, those in a bad mood tried harder and kept going longer. They spent more time on the task, attempted more questions and produced better answers.

- ・ ( D ) : The more alert and detailed thinking style promoted by a bad mood can also improve communication. We found people in a sad mood used more effective persuasive arguments to convince others, were better at understanding unclear sentences and better communicated when talking.

- ・ ( E ) : Other experiments found that a mild bad mood caused people to pay greater attention to social expectations and norms, and they treated others less selfishly and more fairly.

These findings suggest that the constant pursuit of happiness may often do us more harm than good. A more balanced assessment of the costs and benefits of good and bad moods would be more helpful.

出典: Joseph Paul Forgas, "Why bad moods are good for you: the surprising benefits of sadness" (theconversation.com, 15 May, 2017)上の英文は、抜粋の上、一部を変更している。

\*Epicurus ギリシアの哲学者、エピクロス

問1 下線部(1)が指している内容を選び、番号で答えよ。

1. feeling sad or moody for short periods of time
2. the human spirit's greatest achievement is the experience of overcoming negative feelings and emotions
3. the realization that coping with difficulties and hardships is quite common for most people
4. Greek tragedies, Shakespeare's tragedies, and the works of great artists such as Beethoven and Chopin

問2 一時的に悲しかったり、いらいらしたり、ふさぎ込んだりすることに対する人々の捉え方は、過去と現在でどのように変わったか。それぞれ日本語で簡潔に説明せよ。

問3 下線部(2)を和訳せよ。

問4 下線部(3)が指している内容を選び、番号で答えよ。

1. growing evidence
2. negative moods having psychological benefits
3. changing people's mood
4. giving people various tasks to complete in terms of thinking ability and behaviour

問5 ( A )から( E )に入る最も適切な小見出しをそれぞれ一つ選び、番号で答えよ。各小見出しは1回のみ使用可能とする。

1. Greater Motivation
2. Better Memory
3. Increased Fairness
4. Better Communication
5. More Accurate Judgements

問6 本文の内容と一致しているものを二つ選び、番号で答えよ。

1. 幸せになりたいと望めば、私たちはいつでも幸せになることができる。
2. 悲しみは、困難な状態にうまく対処する一助となり得る。
3. 否定的な感情よりも肯定的な感情のほうがより多様である。
4. いらいらしたり、ふさぎ込んだりすることは、恐怖感、怒り、恥ずかしさ、または、嫌悪感を克服するうえで役に立つ。
5. 人は、機嫌が良いとき、よりくつろいで、細かいことに気を使わない傾向にあることが、研究によってわかっている。
6. いらいらしたり、ふさぎ込んだりすることは、隔たりや競争をさらに助長する社会的メッセージとして機能する。

**3** 下線部を英訳せよ。

ベーコン\*は、「知識とはなにか?」という問いに対して、「力だ」と断言します。人類を前進させ、未来を変える、圧倒的な「力」なのだ。

ただし、ベーコンはここで、ひとつの条件をつけます。

古代ギリシアの時代から続く、昔ながらの哲学には限界がある。学問の目標は、地位や名声を得ることで、いばることで、誰かを言い負かすことでもない。ほんとうの目標は、人類の未来を変えるような、発明と発見にあるのだ。それが「力」だ。

昔ながらの哲学では、誰かを言い負かすことはできても、あたらしい発明や発見にはつながらない。言い争いが続くだけだ。われわれは学問を再生し、学問を立て直さなければならない、と。

\*フランシス・ベーコン：16世紀から17世紀にかけて活躍した、イギリスの哲学者。

出典：瀧本哲史『ミライの授業』（講談社、2016年）

**4** 以下の英文を読んで、英語で答えよ。

Some people move to large cities and live there. Other people move to small rural towns or villages and live there. There are advantages and disadvantages to living in both kinds of places.

Which kind of place would you like to live in?

Explain your choice using reasons and examples.

You should write 4 to 6 sentences in English.