

1

次の英文を読み、下の問1～12に答えなさい。答えは最も適切なものを、それぞれア～エの中から一つ選びなさい。

Robotics is a word used to describe the technology and engineering science of robots, including how they are designed, made, structured, and used in society. The term *robotics* was coined by Isaac Asimov in his 1941 science fiction short story "Liar!" Since then, both the term *robotics* and the idea of robots have become more popular among many people with an interest in science and technology. ⁽¹⁾

Stories about these artificial helpers, and the efforts made to create them, have been written for a very long time, but fully independent robots didn't enter society until the early 1960s. Today, robots are used for both commercial and industrial purposes, and are being used worldwide to perform jobs more cheaply and precisely than humans. They are also being used for work which is often too boring or dangerous for people. Robots are used in a wide variety of industries: in factories to produce consumer goods, in hospitals to perform surgery, and in laboratories to help with research.

The structure of robots is almost always mechanical and works in a similar way to the bones that make up the skeleton of the human body. Their bone-like structures are called *links* and their "muscles" are called *actuators*. Robots, like people, also need joints. Joints in humans, allow our fingers, toes, elbows and knees to bend, and in robots, they allow the movement of two or more links that are connected to each other.

Although many advances have been made in robotics, robot structures that precisely copy the physical structure of humans, animals, and insects, are still quite uncommon. However, the development and use of these types of structures are being actively researched by engineers around the world.

In 2009, scientists from various European countries and Israel created a prosthetic hand, which they called the *SmartHand*. It works in a very similar way to a human hand; people can use it to write, type out words and sentences on a computer keyboard, and perform other precise movements. ⁽²⁾

Robots that must work in the real world of humans also need to be able to manipulate objects: pick them up, change them, break them, and have other effects on them. Thus, the "hands" of robots are often called *effectors*, while the "arms" of robots are called *manipulators*. Most robot manipulators can be fitted with a number of different effectors, with these different effectors helping them to perform different types of tasks. ⁽³⁾

[A] engineers and scientists have made impressive advances with the structure of robots, they continue to have difficulties when they try to make robots walk like humans. Quite a few robots that have been produced are able to walk on two legs, but although their legs are sturdy, they are not nearly as flexible and athletic as human legs. Robots with two legs can usually walk quite well on flat surfaces, and a few can even walk up stairs; however, few if any of them are able to walk on uneven surfaces, either in laboratories or outdoors.

So, as we can see, even though engineers have made important advances in robotics over the last fifty years, there is still much that has yet to be done.

問1 According to the passage, totally independent robots started being used in the _____ .

- ア. 1940s イ. 1950s ウ. 1960s エ. 1970s

問2 According to the passage, engineers are currently further researching the development of robots that _____ .

- ア. can care for children and the elderly イ. are made from plastics and similar materials
ウ. structurally imitate living creatures more closely エ. can conduct business around the world

- 問3 The robot part that is most similar to the human hand is _____ .
 ア. the link イ. the actuator ウ. the manipulator エ. the effector
- 問4 According to the passage, it is difficult for robots to walk on uneven surfaces because _____ .
 ア. their legs are too rigid イ. their legs are not steady enough
 ウ. their feet do not have enough joints エ. their feet are too flat
- 問5 The last sentence of the passage suggests that _____ .
 ア. most of the important advances in robotics have now been achieved
 イ. much has been achieved in robotics, but there is still room for further advancement
 ウ. there have not been enough advances in robotics over the past 50 years
 エ. because many advances have been made in robotics, there is now little that needs to be done
- 問6 The term “coined,” as it is used in the passage, is closest in meaning to _____ .
 (1)
 ア. valued イ. deleted ウ. created エ. repeated
- 問7 The term “prosthetic,” as it is used in the passage, is closest in meaning to _____ .
 (2)
 ア. substitute イ. intelligent ウ. inflexible エ. supporting
- 問8 The word “them” refers to _____ .
 (3)
 ア. robots イ. humans ウ. objects エ. effectors
- 問9 “_____” best replaces [A] in the passage.
 ア. Since イ. While ウ. Unless エ. Because
- 問10 In the passage, use of robots is mentioned in all of the following areas EXCEPT _____ .
 ア. medicine イ. industry ウ. science エ. law
- 問11 Which of the following statements **CANNOT** be inferred from the passage?
 ア. Robots are better at some jobs than humans.
 イ. Robots may someday be able to have emotions like humans.
 ウ. Robots may soon be able to walk in a way that’s similar to humans.
 エ. Robots can be more economical than humans.
- 問12 What would be the best title for this passage?
 ア. Robotics in Health Care イ. How Robots Are Used in Industries
 ウ. How to Build Robots エ. An Introduction to Robotics

2

次の1～10の英文を完成させるために、下線部に入る最も適切な語(句)を、それぞれア～エの中から一つ選びなさい。

1. He loves Disneyland, and he _____ there three times this year already.
ア. is going イ. was going ウ. had been エ. has been

2. Manchester City Bank is across _____ the convenience store.
ア. to イ. on ウ. from エ. of

3. It is the _____ beautiful sunset I have ever seen.
ア. more イ. most ウ. better エ. best

4. During the difficult math class, the student sometimes felt _____ .
ア. bored イ. boring ウ. bore エ. bores

5. Ms. Suzuki, _____ became a professor at the age of 28, has always loved teaching.
ア. when イ. that ウ. which エ. who

6. On June 15, 2015, Mary _____ working at Springtime Flower Shop for 25 years.
ア. will have been イ. is being ウ. will be エ. has been

7. Please submit your assignment _____ Thursday at noon.
ア. on the day イ. by the time ウ. on or before エ. by or at

8. _____ my classmates are from Kanagawa.
ア. Some of イ. Almost ウ. Each of エ. Every

9. The winner received a prize that was made _____ gold.
ア. in イ. of ウ. by エ. out

10. They played tennis _____ it was raining.
ア. in spite of イ. despite ウ. even though エ. whereas

3

次の1～10の英文を読み、下線部の意味に最も近い語(句)を、それぞれア～エの中から一つ選びなさい。

1. Teenagers are often exhausted in the morning because they sleep too little the night before.
ア. weary イ. relieved ウ. diligent エ. sufficient

2. She's very keen on volleyball. She loves watching and playing it.
ア. surprised at イ. sympathetic towards ウ. entertained by エ. enthusiastic about

3. I don't understand Anita. First she's happy, then she's sad. She's so moody.
ア. glad イ. changeable ウ. thoughtful エ. obscure

4. It was hard work, but eventually I achieved my goal.
ア. rejected イ. accomplished ウ. manufactured エ. adjusted

5. The service and the food here are terrible. I'm going to make a complaint.
ア. recommendation イ. compliment ウ. protest エ. debate

6. I didn't want to do it at first, but in the end they convinced me that it was the right thing to do.
ア. persuaded イ. referred ウ. encouraged エ. praised

7. We considered it for a long time and finally thought of a great new idea.
ア. went up to イ. looked down on ウ. got away with エ. came up with

8. Our company was set up in 1925.
ア. landed イ. established ウ. grounded エ. estimated

9. According to the weather report, the prediction is for rain on Saturday.
ア. insistence イ. acceptance ウ. expectation エ. consideration

10. This is a no smoking area. Please extinguish your cigarette immediately.
ア. light up イ. turn off ウ. throw in エ. put out

4

次の会話文を読み、その意味・内容に合うようにそれぞれの下線部に入る最も適切なものを、ア～エの中から一つ選びなさい。

Man: Excuse me. I'd like to talk to someone about transferring some funds to my overseas account.

Woman: Certainly, sir. Please take a ticket from that machine over there and wait for your turn. You'll see your number light up when a teller is ready for you.

Man: Oh, I see, thank you. Will I have to wait very long? It's my lunch break, and I have to be back in my office by 1:30.

Woman: Well, there are quite a few people before you, but I think you should be back in time, as long as your request is an easy one to sort out.

Man: Oh, I think so. I did the same thing last month, and it only took a few minutes.

1. This conversation is most likely taking place _____ .

- ア. in a bank
- イ. in a restaurant
- ウ. at a ticket office
- エ. at a theater

2. The man will most likely _____ next.

- ア. eat lunch
- イ. go to his office
- ウ. get a ticket
- エ. change his address

3. When the woman says, "I think you should be back in time," she thinks the man _____ .

- ア. should go home as soon as possible
- イ. will probably get to his office before 1:30
- ウ. should return when his number lights up
- エ. will probably arrive late for work

Stacey: Is that the same mobile phone you've always had? It looks different.

Ken: I just recently got it. They're not making this style anymore, so I got a real deal on it.

It was way below the amount I would have paid last month.

Stacey: Really? It looks pretty cool to me. It's a great color. Why aren't they going to make them anymore?

Ken: The guy said that the company wanted to make way for a newer model next month.

Anyway, I'm good with it. I don't need anything fancy.

4. We know from the conversation that Ken _____ .

- ア. is angry he got a new phone last month
- イ. will get the newest model phone next month
- ウ. will try to get a good deal on his next phone
- エ. is happy with his new phone

5. When choosing a mobile phone, the _____ is probably the most important consideration for Ken.

- ア. cost
- イ. maker
- ウ. color
- エ. model

6. Ken's mobile phone _____ .

- ア. is the same model as Stacey's
- イ. has a fancy design
- ウ. will no longer be produced
- エ. was overpriced

7. From this conversation, we can infer that Stacey _____ .

- ア. is going to buy Ken a phone
- イ. just bought a new phone
- ウ. is impressed with the phone's functions
- エ. has seen Ken's old phone

5

次の問1～3の英文を読み、意味が通るように並べ替えた場合、最も適切なものはどれか。それぞれア～エの中から一つ選びなさい。

- 問1
1. Then the egg hatches into a nymph, which stays underwater for up to four years.
 2. First, the female dragonfly lays her eggs in a river, pond or lake.
 3. The life cycle of a dragonfly is divided into three stages.
 4. Eventually, the nymph sheds its skin, and the adult dragonfly emerges into the air.

ア. 2 → 3 → 4 → 1

イ. 2 → 1 → 3 → 4

ウ. 3 → 2 → 1 → 4

エ. 3 → 4 → 2 → 1

- 問2
1. When guests come to a hotel, the doorman is the first person to welcome them.
 2. Here, at the front desk, the guests are then checked in and taken to their rooms.
 3. After entering the hotel, they go to the front desk, and the front desk clerk is usually the next person to welcome the guests.
 4. The doorman greets the guests, helps them out of their cars, and opens the hotel door for them.

ア. 1 → 4 → 3 → 2

イ. 1 → 2 → 4 → 3

ウ. 4 → 1 → 2 → 3

エ. 4 → 3 → 1 → 2

- 問3
1. Once the customers have finished their food, the server clears the plates from the table.
 2. While their orders are being prepared, the server brings drinks to the customers.
 3. Then if they don't want any dessert or coffee, the bill is placed face down on the table.
 4. After customers have been seated at a table in a restaurant, a server takes the order from them.

ア. 4 → 3 → 2 → 1

イ. 4 → 2 → 1 → 3

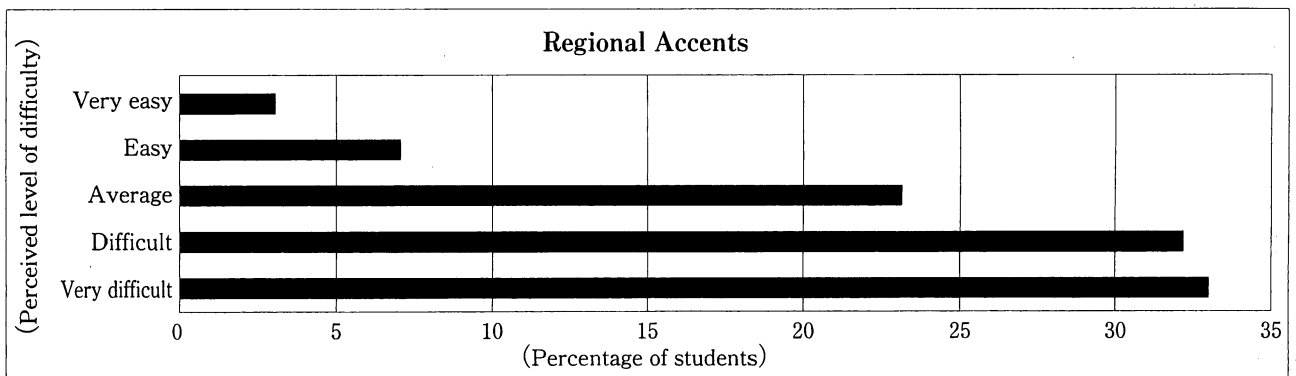
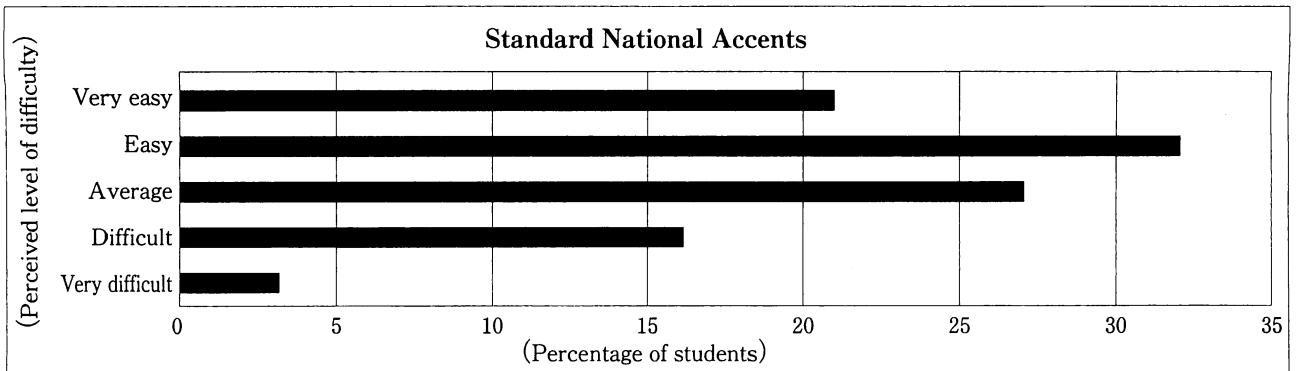
ウ. 2 → 1 → 4 → 3

エ. 2 → 4 → 3 → 1

6

次のグラフを見て、英文の空所(1)～(4)に入る最も適切なものを、それぞれア～エの中から一つ選びなさい。

Students' Perceived Skill in Identifying Native English Speaker Accents



The graphs show the responses of approximately 200 non-native students of English to two survey questions. They show the students' perceptions of the ease and difficulty with which they claim to be able to distinguish between standard national accents, (e.g., General American and British English) and accents from regions within those countries (e.g., the Southern United States, and those from the West Country of England).

A (1) of students say that they find differentiating between standard national accents very difficult. (2), more than 30% say they find it very hard to distinguish between regional accents, while only a small number say they find this easy. A similar proportion of students, approximately (3), chose 'Average' for both national and regional accents. Overall, the graphs indicate that when comparing regional and national accents, students found regional accents to be (4) to identify.

- | | | | |
|---------------------|--------------------|-----------------------|-------------------|
| (1) ア. wide variety | イ. slight majority | ウ. substantial number | エ. tiny minority |
| (2) ア. Likewise | イ. In contrast | ウ. Consequently | エ. Nonetheless |
| (3) ア. a quarter | イ. a third | ウ. half | エ. three quarters |
| (4) ア. as difficult | イ. less difficult | ウ. not difficult | エ. more difficult |

7

次の英文を読み、下線部(1)と(2)を日本語に訳しなさい。

Although similarly-aged children show some characteristics in common, they are also unique individuals enjoying different activities. For example, one child may show particular strengths in the areas of logical and numerical analysis, ⁽¹⁾ while another may exhibit interests in artistic expression. Yet another may be sensitive to linguistic aspects such as writing. Therefore, when assessing a child's intelligence, many psychologists argue that it is necessary to take these ⁽²⁾ individual differences into serious consideration.

8

次の日本語を読み、下線部(1)と(2)を英語に訳しなさい。

自然食品をとるということは、できるだけ自然が作り出すものに近い食品を食することである。 ⁽¹⁾ 缶や箱に詰められた人工的な食品は、加工や保存により原材料が取り除かれていることが多いため、避けた方が良い。 一般的には有機農産物は ⁽²⁾ 値段が高くつくことになるが、結果的にはより健康的な生活を送ることができる。