

# S 英語 問題

## 注意

1. 試験開始の指示があるまでこの問題冊子を開いてはいけません。
2. 解答用紙はすべてHBの黒鉛筆またはHBの黒のシャープペンシルで記入することになっています。HBの黒鉛筆・消しゴムを忘れた人は監督に申し出てください。(万年筆・ボールペン・サインペンなどを使用してはいけません。)
3. この問題冊子は16ページまでとなっています。試験開始後、ただちにページ数を確認してください。なお、問題番号はI～Vとなっています。
4. 解答用紙にはすでに受験番号が記入されていますので、出席票の受験番号が、あなたの受験票の番号であるかどうかを確認し、出席票の氏名欄に氏名のみを記入してください。なお、出席票は切り離さないでください。
5. 解答は解答用紙の指定された解答欄に記入し、その他の部分には何も書いてはいけません。
6. 解答用紙を折り曲げたり、破ったり、傷つけたりしないように注意してください。
7. この問題冊子は持ち帰ってください。

### マーク・センス法についての注意

マーク・センス法とは、鉛筆でマークした部分を機械が直接よみとって採点する方法です。

1. マークは、下記の記入例のようにHBの黒鉛筆で枠の中をぬり残さず濃くぬりつぶしてください。
2. 1つのマーク欄には1つしかマークしてはいけません。
3. 訂正する場合は消しゴムでよく消し、消しきずはきれいに取り除いてください。

マーク記入例：

A	1	2	3	4	5
	○	○	●	○	○

 (3と解答する場合)

- I. 次の文を読み、下記の1～10それぞれに続くものとして、本文の内容ともっともよく合致するものを、各イ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

Picture a face you know really well: someone in your family, a friend or even someone famous. Exactly what is it about that face that you remember? Is it a particular feature like the nose, forehead or mouth, or do you remember the face as a whole? Psychologists today would be hard-pressed to say which of these two different strategies—or any other—we use to recognize faces, even though we're doing it all the time in our everyday lives.

Even newborn infants a few minutes old will spend more time looking at and following the movements of a face-like pattern than any other, even if it's as simple as two small squares for eyes and another small square for a nose. This surely shows how fundamental face recognition is to humans. If you mix up those three simple features—put the nose on the side and the eyes one over the other—the infant loses interest. This early recognition ability isn't very complex, because if the "face" stops moving, the baby quickly loses interest, but by two to three months, babies have a better system in place, and will prefer a proper face to a rearranged one, even if it isn't moving.

As infants become children, they get better at remembering faces, but even six- to eight-year-olds are easily thrown off by disguises like wigs. In fact, some studies have shown that adults, too, won't remember faces they've seen briefly if those faces were wearing glasses. If their classmates wear hats and glasses, children aren't fooled, but when the faces are unfamiliar, they pay attention to the additional articles and not to the face itself.

One of the strangest observations is that between the ages of 11 and 14, the ability to recognize faces suddenly drops, and for a couple of years either gets worse or at best levels out before beginning to improve again. It's not yet clear why this happens. Another curious finding is that while we get better at recognizing normal faces as we mature, even as adults we're no better than pre-schoolers at recognizing upside-down faces. One possible explanation is that by the time we're adults, we've locked in the brain routines for recognizing right-side-up faces, and an upside-down face simply doesn't compute. Pre-schoolers, on the other hand, haven't perfected

their ability to recognize any face yet, and so an upside-down face isn't as foreign to them as it is to an adult.

Just how well we remember faces was revealed in a study done in the 1970s, in which people were shown five faces from yearbooks dating back to the time they had been in high school, and asked to pick out the one person who had been a schoolmate. Even those who had been out of school for 35 years were able to recognize their schoolmate 90 percent of the time, an amazing figure (and one that shows that all the new faces they had learned in the interim hadn't interfered with their original memories). The success rate dropped to around 75 percent for people who had been out of school for 40 years. Remarkably, 50 years had to pass after graduation before the ability to recognize classmates' faces started to drop significantly. Nor did it matter how big the school was: 100 or 800 students, the results were about the same.

This study also showed how much easier it is to recognize a face from the past than to recall a name. Even recent graduates (three months out of school) were able to list by name an average of only 15 percent of fellow students, regardless of the number they had gone to school with. That shrunk to 9 percent for those who had been out of school for 40 years. And how about this curious observation: both men and women remembered twice as many boys' names as girls'!

The main problem in face-recognition research is determining what attracts our attention. Do some features lend themselves to recognition better than others? A typical example of the way psychologists try to address this question was a British study in which 40 participants wrote descriptions of ten faces while they were looking at black-and-white photographs of them. The experimenters went through all 400 descriptions, noting down how often each part of the face was mentioned. Then a second experiment was done, where color photographs of only two faces were used. Participants were asked to describe one face immediately after seeing it, and the other after a delay of an hour, a day or a week. While these two experiments were quite different, the results were almost exactly the same: hair was the feature quoted most often, followed by eyes, nose, face structure and eyebrows (note these are all in the upper half of the face), then chin, lips, mouth, skin color and cheeks. The last, and presumably least important feature was the forehead, suggesting that

trying to disguise yourself by wearing a headband is not a smart thing to do.

The problem is that for every experiment that comes up with a list of facial features in one order of importance, there's another that contradicts it. For instance, studies that present isolated parts of faces to subjects to see if they can recognize the whole from the part ("face fragmentation" studies) rank the eyes most important, followed by mouth, then nose. Others that change one or more features to see if those changes affect recognizability ("face distortion" studies) suggest that hair is most important, followed by eyes and chin. Some studies even suggest that specific facial features are not as crucial for recognition as general qualities, like the age and overall shape of the face.

Obviously these studies, however well designed they are, can give at best only very rough indications of what goes on in our brains when we see a real face, remember it, then recognize it later. All the above tests use pictures, but in everyday life we see live faces that move, express emotion, cause emotional reactions in us and take on dozens or even hundreds of different looks in only a few minutes. Questionnaires and tests can only take you so far.

1. Babies who are three months old are different from newborn infants in that they
  - イ. can make out a face even if it is a picture.
  - ロ. show no preference for the arrangement of facial features.
  - ハ. lose interest in a face if it is not familiar.
  - ニ. will continue looking at a face even if it is still.
  
2. One observation made in paragraphs 3 and 4 is that
  - イ. adults are better than children at recognizing upside-down faces.
  - ロ. children are not easily fooled by familiar faces wearing glasses and hats.
  - ハ. people have no difficulty remembering unfamiliar faces with glasses.
  - ニ. the younger you are, the better you are at remembering faces.

3. The underlined word "interim" (paragraph 5) is closest in meaning to
- イ. event.
  - ロ. meantime.
  - ハ. past.
  - ニ. world.
4. A study found that the ability to recognize a familiar face drops sharply a few years after the age of
- イ. 50.
  - ロ. 55.
  - ハ. 60.
  - ニ. 65.
5. The underlined word "address" (paragraph 7) is closest in meaning to
- イ. bring up.
  - ロ. deal with.
  - ハ. report on.
  - ニ. work around.
6. In the first experiment of the British study on face recognition, subjects
- イ. wrote descriptions of pictures of faces.
  - ロ. listed the facial features that helped them recognize faces.
  - ハ. analyzed the results for the experimenters.
  - ニ. met ten people and described their faces.
7. In the second experiment of the British study, subjects described
- イ. two faces immediately after seeing them.
  - ロ. two faces after a delay.
  - ハ. one of the two faces after a delay.
  - ニ. one of the two faces while seeing it.

8. In terms of facial recognition, research suggests that the most important feature is the
- イ. eyes.
  - ロ. forehead.
  - ハ. mouth.
  - ニ. nose.
9. The author would probably agree that studies of face recognition
- イ. have produced consistent results.
  - ロ. are limited because they rely on pictures.
  - ハ. have given us a clear understanding of how faces are remembered.
  - ニ. are poorly designed.
10. The most appropriate title for this passage is
- イ. Why Do We Remember Faces?
  - ロ. What Do You Remember from High School?
  - ハ. The Psychology of Memory.
  - ニ. How Do We Recognize Faces?

II. 次の文を読み、下記の1～10それぞれに続くものとして、本文の内容ともっともよく合致するものを、各イ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

How would you like to take a trip to Mars? There would be no coming back. You don't have to make up your mind right now, because there are no missions planned or even on the horizon. But when the idea was first suggested in 2012 in a cosmology journal, the response was rather overwhelming: More than 1,000 people said they'd be eager to go. It was not proposed as a dangerous mission, although the chances of a long life on Mars probably aren't great. Rather, it was presented as what would potentially be the greatest scientific adventure and exploration of all time.

The idea was presented by two scientists, Paul Davies of Arizona State University and Dirk Schulze-Makuch of the University of Washington, in an article in the *Journal of Cosmology*. One of the journal's editors, Ron Becker, said that as the hundreds of e-mails flowed in from prospective Mars explorers, the initial reaction of both researchers and journal staff was to dismiss them as not serious. But that changed as it became apparent that many of the correspondents were quite sincere. "Our initial goal was to find a way to develop a human mission to Mars that could actually take place, that wouldn't cost so much that it would be impossible to achieve," Davies said. "And the one-way trip, as we estimated the cost, would be about one-quarter the price of a there-and-back mission."

"But the response told us the spirit of exploration remains alive around the globe and that some people understand that the science involved would be extraordinary," Davies said. "Just like with earlier explorers, they are prepared to set out knowing they won't come back, but willing to do it because their time on Mars would be so remarkable."

Schulze-Makuch said the idea would be to start a colony on Mars, not simply to send astronauts there and abandon them. He imagines them living in the shelter of a volcanic tunnel or some habitat they take with them, and imagines that a stream of others would follow. Robotic exploration has shown there is substantial water ice below the Martian surface, so many of the materials needed for survival are present.

But enormous challenges are present as well: The temperatures are extremely low, the atmosphere is too thin to protect people from deadly radiation, and it consists primarily of carbon dioxide, with little oxygen. Ultimately, Mars colonists would need to develop means for growing their own food in controlled and protected areas. “Yes, these people will be isolated,” said Schulze-Makuch. “But they would have all of society behind them, and their time on Mars would be unlike anything experienced before. Thinking more about it, I’m not surprised so many people came forward to volunteer.”

NASA officials were reluctant to discuss the idea, which goes very much against the grain of the agency’s idea of human exploration in space. But in a statement in early 2013, NASA officials responded to the *Journal of Cosmology* article by saying: “Mars is not the current focus for NASA’s human exploration efforts but it is our ultimate goal. In April 2012, President Obama informed NASA in a speech that the agency would be sending astronauts to an \*asteroid by 2025. The President also said that he ‘believed by the mid-2030s that we could send humans to orbit Mars and safely return them to Earth and that a Mars landing would soon follow.’ So the President is not considering one-way trips to Mars and neither is NASA. We want our astronauts to safely return home to Earth.”

But as a thought experiment and a challenge to how human exploration of space is now conducted, the proposal has drawn, not necessarily much financial support, but some strong feelings among the public.

The initial volunteers are a broad range of people—old and young, male and female, military and civilians. Jeff Lane, for instance, is a 45-year-old police officer in Youngstown, Ohio. He said that his kids would be grown by the time any Mars mission would be ready and that the mission would need some kind of law enforcer on the flight. “Growing up, I watched the moon launches and shuttle missions and would have loved to have been a part of it. It never came to be, so I thought, why not volunteer for Mars?”

Jessica Sloan of Rosslyn, a 27-year-old business developer for nonprofits, said in an e-mail that she was always fascinated by space and admired “good old-fashioned American frontierism.” “My great-grandfather came to the United States in the cargo hold of a Russian ship and slept in a bathtub in New York City,” she



said. "He, like so many others before, left his home to start a new life in an unknown land. I'm not saying that I think Mars is the promised land or that I'm fleeing any great hardship. But space really is the 'final frontier' and perhaps humanity's last great adventure."

Paul Gregerson of Clarno, Wisconsin, is a 61-year-old former Marine, now a priest in the United Methodist Church. He said that mental health is important in such an endeavor and qualified caregivers would need to come along. "I feel that spiritual advisers would also be necessary," he said in an e-mail. "That would be where I come in."

Given the long preparation time for such a mission, Gregerson would no doubt be too advanced in years. But Davies and Schulze-Makuch said that the ideal candidate would not be a young person but rather someone who has had many of the experiences that make up a rich life: marriage, child-rearing, satisfying work, long-term friendships. The crew would certainly need engineers and a pilot, as well as scientists who could conduct the testing needed to determine if Mars has life. But there would also be room for the kind of eager, disciplined and well-rounded people who don't get selected to be astronauts, Davies and Schulze-Makuch said.

The trip to Mars would be fundamentally risky, as are many sports, journeys and other nonessential endeavors on Earth, the authors point out. They acknowledge as well that while setting up one small Mars colony would be an enormous and costly undertaking, following up with more would be even more of a stretch. Yet the authors say it is both important for the long-term survival of humanity to do it and it is in keeping with the most basic nature of human beings. "The culture has come to avoid risks, and creativity and the pioneering spirit get lost in that kind of atmosphere," Davies said. "This is an opportunity to do something remarkable for science, and we've seen many, many people are willing to take up the challenge."

\* asteroid : 小惑星

1. The idea of a one-way trip to Mars was first proposed in
- イ. a blog.
  - ロ. an academic publication.
  - ハ. a speech.
  - ニ. a news magazine.
2. The main reason Davies and Schulze-Makuch are proposing a one-way trip is that a round trip
- イ. costs too much money.
  - ロ. is technically not possible.
  - ハ. takes too much time.
  - ニ. is too dangerous.
3. The underlined word "prospective" (paragraph 2) is closest in meaning to
- イ. experienced.
  - ロ. potential.
  - ハ. imagined.
  - ニ. substantial.
4. Among the various challenges of setting up a colony on Mars, the one that seems easiest to deal with is
- イ. food.
  - ロ. oxygen.
  - ハ. temperature.
  - ニ. water.
5. The underlined word "grain" (paragraph 6) is closest in meaning to
- イ. example.
  - ロ. thinking.
  - ハ. realization.
  - ニ. origin.

6. The passage suggests that NASA
- ㄱ. does not agree with President Obama's plans for space travel.
  - ㄴ. would not consider sending ordinary people into space.
  - ㄷ. will not attempt a landing on Mars for at least another 20 years.
  - ㄹ. is not interested in exploring Mars.
7. Jessica Sloan would like to go to Mars because
- ㄱ. she has always respected the pioneering spirit.
  - ㄴ. her parents have a history of exploring frontiers.
  - ㄷ. she thinks Mars would be a wonderful place to live.
  - ㄹ. her parents have a history of hardship.
8. Among the following candidates for a trip to Mars, Davies and Schulze-Makuch would most likely choose
- ㄱ. a 20-year-old Air Force pilot.
  - ㄴ. a retired scientist who has never married.
  - ㄷ. a middle-aged engineer with grown-up children.
  - ㄹ. a college student with dreams of adventure.
9. The passage suggests that the volunteers for the journey to Mars
- ㄱ. do not seem to understand the real dangers.
  - ㄴ. are trying to escape problems in their lives.
  - ㄷ. lack the qualifications needed for space travel.
  - ㄹ. are sincere in their desire to go.
10. The most appropriate title for this passage is
- ㄱ. The Ideal Spaceship Crew.
  - ㄴ. A One-Way Ticket to Mars.
  - ㄷ. Space Travel: Challenges and Rewards.
  - ㄹ. The First Exploration of Mars.

Ⅲ. 次の1～6それぞれの空所を補うのにもっとも適当なものを、各イ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

1. (        ) it comes to choosing what to wear for a party, nobody can beat Susanna.

- イ. As                      ロ. For                      ハ. Since                      ニ. When

2. Why don't you just relax and let things (        )?

- イ. free                      ロ. go                      ハ. remain                      ニ. stay

3. The dark sky was (        ) up by a bolt of lightning.

- イ. covered                      ロ. crossed                      ハ. filled                      ニ. lit

4. I could not have agreed with him (        ) when he said the company needs to employ more disabled people.

- イ. altogether                      ロ. everything                      ハ. more                      ニ. neither

5. Mt. Fuji is (        ) as "Fuji-san" in Japanese.

- イ. called                      ロ. known                      ハ. named                      ニ. referred

6. I often (        ) myself why I did not beg my brother to stay another night with us the day before the accident happened.

- イ. ask                      ロ. criticize                      ハ. think                      ニ. wonder

IV. 次の空所(1)～(6)を補うのもっとも適当なものを、それぞれ対応する下記のイ～ニから1つずつ選び、その記号を解答用紙の所定欄にマークせよ。

At the beginning of this century, Sir Arthur Evans discovered and restored the palace at Knossos on the Kefala hill in on the island of Crete. The oldest parts ( 1 ) back to between 2100 - 2000 BC. Knossos had a water system that ( 2 ) those of modern times. There were separate pipes for freshwater and dirty water. There was even a toilet with running water. Most interesting of all is, perhaps, how the problem of ( 3 ) freshwater was solved. From a spring on the other side of the valley, water was conveyed through a very special set of ceramic pipes. These pipes were fitted in such a way to facilitate the ( 4 ) of water. In Knossos there were also special pools for the treatment of dirty water. The idea behind this was that the water should be allowed to ( 5 ) to Nature in the same condition as it was in when it was "borrowed." This was especially important since water was considered to be holy, ( 6 ) which we should be able to learn from today.

- |                 |                |              |               |
|-----------------|----------------|--------------|---------------|
| (1) イ. date     | ロ. derive      | ハ. originate | ニ. track      |
| (2) イ. equalled | ロ. modelled    | ハ. predicted | ニ. signalled  |
| (3) イ. digging  | ロ. locating    | ハ. obtaining | ニ. purifying  |
| (4) イ. flow     | ロ. flood       | ハ. pressure  | ニ. production |
| (5) イ. recall   | ロ. recycle     | ハ. repay     | ニ. return     |
| (6) イ. a little | ロ. considering | ハ. perhaps   | ニ. something  |

V. 次の空所(1)～(8)それぞれにもっとも適当な1語を補い、英文を完成せよ。解答は解答用紙の所定欄にしるせ。

Dear Tom,

Thank you for your letter of January 22<sup>nd</sup>.

With ( 1 ) to the sale of your house, I think it would be a good ( 2 ) to accept the offer of \$310,000. ( 3 ) you mentioned in your letter, this potential buyer seems to have the necessary funds. I think it is also worth ( 4 ) into consideration that ( 5 ) you have had one higher offer before this one, that potential buyer cannot buy your house until he has sold his own. That could take a long time. It seems to me that time is ( 6 ) considerable importance to you, given the fact that you want to be in your own new ( 7 ) as soon as possible.

Let me know if you want to discuss this matter any ( 8 ). I'll be happy to help.

Kind regards,

Bill

【以下余白】

