

英 語

(医 学 部)

— 2月3日 —

解答はすべて解答用紙に記入して提出しなさい。

1 次の英文を読み、問1、問2、問7～問9は問いに答え、問3～問6は文を完成させなさい。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。問10は指示に従ってTかFを選びなさい。

Over the last thirty years, the hair-loss treatment industry has become big business. According to a 2014 global market research report, it is a four-billion-dollar market in the US alone, which accounts for almost 40 percent of the total global revenue in this industry. Companies in the business of hair-loss treatment develop and sell various commercial products that may prevent or reverse hair loss, including shampoos, lotions, vitamins, and products like laser-equipped hairbrushes. [1], there are approximately 250 such companies operating in the US. However, no single company has more than five percent of the market share. Medical and surgical treatments are also available, but none has provided a permanent solution.

In a 2015 article, a research team at the University of Southern California (USC) revealed that they might have discovered a treatment for human hair loss through experiments on laboratory animals. As strange as it sounds, they found that pulling hairs out could actually stimulate new hair growth. The USC scientists based the claims on their investigation of a microbiological phenomenon known as “quorum sensing.” Quorum sensing is not a new discovery. Four decades ago, this phenomenon was seen by a group of Harvard scientists in colonies of bacteria. It was observed that when bacteria are under attack, they send signals to one another in order to maintain healthy population densities. The USC scientists then developed a research question: could quorum sensing influence hair density in the same way it influences the density of bacteria populations?

When applied to hair follicles*, the researchers found that damage caused by hair plucking triggered the sending of “distress signals” to immune cells, calling them to the injury site. These immune cells encourage both damaged and undamaged hair follicles to grow new hair. In their experiment, the team plucked 200 hairs from the back of a mouse, one by one, in a number of different patterns. They succeeded in regenerating up to 1,300 new hairs. At first, they found that plucking hairs from a region greater than 6 mm in diameter did not generate any new hairs. [2], plucking hairs from an area 3 to 5 mm in diameter led to new hair growth, even outside of the plucked area.

It might be premature to conclude that the research team has found a way to regenerate new and healthy hair, as this procedure has not yet been tested on people. Some have also pointed out that it might be challenging to regrow hair over an entire head from areas as small as 3 mm. Nevertheless, many scientists are hopeful that the results of this research can be applied to finding cures for treating baldness and hair follicle injuries. Many companies around the world have invested money in the industry, and the researchers in this field are collaborating with them to come up with a method of reversing hair loss. Effective products may be available in the near future.

* follicle 毛包

問1 Which word best replaces [1] in the passage?

- ア. Conversely イ. Eventually ウ. In fact エ. To conclude

問2 Which word best replaces [2] in the passage?

- ア. Accordingly イ. Unfortunately ウ. Therefore エ. However

問3 In the second line of the second paragraph, "it" refers to _____.

- ア. using laboratory animals イ. growing hairs by pulling out hairs
ウ. sensing some follicles エ. controlling populations of bacteria

問4 According to the first paragraph, _____.

- ア. existing hair-loss treatments are not effective in the long term
イ. the hair-loss treatment business has expanded by 40 percent in US
ウ. five percent of all hair-loss-treatment manufacturers are based in the US
エ. commercial products provide better results than other treatments

問5 The main purpose of the second paragraph is to _____ the science behind the USC experiment.

- ア. offer an opinion regarding イ. present a concern about
ウ. provide the background to エ. make the case against

問6 According to the second paragraph, quorum sensing was _____.

- ア. used to prevent bacteria from sending signals
イ. applied to research into hair regeneration
ウ. introduced to scientists for the first time in 2015
エ. discovered by a university research team in USC

問7 Which of the following details was explained in the third paragraph?

- ア. how 200 hairs were systematically plucked from a mouse
イ. how hairs were randomly plucked from a volunteer
ウ. how the collection of healthy hair samples was a challenge
エ. how the study was built upon previous hair pulling experiments

問8 What is the main purpose of the last paragraph?

- ア. to give some personal observations about the research at hand
イ. to restate the thesis and explain the risks of hair plucking to readers
ウ. to conclude the passage by challenging the findings of the study
エ. to summarize the passage's main points and state their implications

問9 Which would be the best title for the passage?

- ア. Achieving Hair Gain through Hair Loss
- イ. The Dark Side of the Hair Product Industry
- ウ. Communicating with Follicles through Bacteria
- エ. The Ethics of Using Animals as Research Subjects

問10. Based on the passage, mark "T" if the statement is true, and mark "F" if the statement is false.

- 1. The hair-loss treatment industry has grown significantly since the 1980s.
- 2. Research was conducted on humans to test if plucking hair stimulates hair growth.
- 3. Scientists had greater success when plucking hair from a smaller area.
- 4. The hair plucking method is now being used to treat hair follicle injuries.
- 5. Companies are working independently to create new hair-loss treatments.

2

次の1～10の英文の空所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. () anything to happen to my sister, please contact me at this number.
ア. Were イ. Did ウ. Shall エ. Will

2. Under no circumstances () the PIN number for your credit card.
ア. anyone should be given イ. be given anyone should
ウ. should anyone be given エ. given anyone should be

3. He's not used to () here at night.
ア. worked イ. working ウ. have worked エ. be working

4. By the time Natalie finished her recital, we () outside for three hours.
ア. will wait イ. would wait ウ. have been waiting エ. had been waiting

5. I am going to work in Paris for the next two years. Now I wish I () French in university.
ア. study イ. had studied ウ. had been studied エ. am studying

6. We may go skiing this weekend, () on the weather forecast.
ア. depend イ. depending ウ. dependable エ. dependance

7. The concert was () than I had expected.
ア. excited イ. exciting ウ. more excited エ. more exciting

8. Sitting under the cherry tree with her legs (), Sally ate her sandwich.
ア. have crossed イ. crosses ウ. crossed エ. are crossing

9. My father collects old tea cups, many of () have survived since the Meiji Era.
ア. what イ. which ウ. who エ. whom

10. If I had known that the band had broken up, I () asked about them.
ア. hadn't have イ. didn't ウ. wouldn't have エ. wasn't

3

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

1. The queen in that fairy tale was so cruel to Snow White.
ア. useless イ. careless ウ. heartless エ. hopeless

2. It appears that my prediction about this year's economy was right after all.
ア. amazes イ. seems ウ. states エ. explains

3. Susan's spirits were lifted when her dog was found in the park.
ア. signaled イ. raised ウ. greeted エ. chased

4. This film is based on the story of a courageous man.
ア. brave イ. wealthy ウ. sensible エ. clever

5. The government will abolish restrictions on freedom of speech.
ア. impose イ. investigate ウ. ease エ. eradicate

6. I was easily taken in by her story about her cat Marla.
ア. fooled イ. encouraged ウ. relieved エ. shocked

7. My little brother is very timid around people he doesn't know.
ア. cheerful イ. shy ウ. mean エ. active

8. His attitude made me suspicious about his motives.
ア. skeptical イ. angry ウ. worried エ. optimistic

9. My father keeps up with international issues by watching the news.
ア. discusses イ. introduces ウ. solves エ. follows

10. Running a hotel can be very tiring. We sometimes have to deal with impossible customers.
ア. distant イ. different ウ. distinct エ. difficult

4

次の2つの会話文を読み、1～8の問いに答えなさい。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。

Katy: Marie! Wait! Can I join you for lunch? I haven't seen you much since I got transferred to the Economics Department at the other campus.

Marie: Sure, Katy. I miss our lunches together. Let's eat over there on one of those benches in front of the Student Affairs Office.

Katy: Great. What are you having today?

Marie: A tuna sandwich with a Greek salad.

Katy: Sounds delicious. I'm still full from breakfast, so I'm just having this apple. Do you ever hear from Evelyn, our old boss?

Marie: Yeah, we talk about once a month. You heard that after she left, she started a web design business, right? That was about four years ago.

Katy: Yes. But I remember that she had problems getting the new business off the ground.

Marie: Right. She struggled for a while and eventually sold her business. Luckily for her, one of her clients gave her a job selling computers. She actually makes more money than before, has more time off, and gets to travel to Europe pretty often. You know, traveling was always Evelyn's true passion.

Katy: Wow. Talk about landing on her feet! She deserves it. So, how about you? Is anything different in the office?

Marie: Quite a lot since you left. Who do you want to know about?

1. What is the most likely relationship between Marie and Katy?

- ア. former business partners
- イ. former co-workers
- ウ. former classmates
- エ. former relatives

2. Why is Katy just going to eat an apple?

- ア. She's not very hungry.
- イ. She wants to eat alone.
- ウ. She forgot her lunch.
- エ. She will eat something later.

3. According to the conversation, which of the following is true about Evelyn?

- ア. She started a company that sells computers.
- イ. She was Marie's boss, but not Katy's.
- ウ. She had a higher paying job at first.
- エ. She worked in the web design business.

4. What does Katy mean when she says “landing on her feet”?

- ア. traveling or walking to a new location
- イ. having success after being in a difficult position
- ウ. learning new skills and getting experience
- エ. finding a job that requires standing for long hours

Man: Hi, I'm looking for something special for my wife. On Saturday, we'll have been married for 30 years.

Woman: That's wonderful! What are you looking for? A necklace? Some earrings? We have a pair that just came in. They're in the display case over there. They're pearl and quite expensive but very elegant.

Man: Well, they look a bit old-fashioned. I think she'd be more interested in something more colorful, like the ones here.

Woman: What about this pair? These are very popular with our customers. In fact, I'm wearing the same ones right now, as you can see.

Man: Oh, they do look nice, and your hair is similar to hers. I think they'd be perfect.

Woman: Would you like me to gift wrap those for you? It's \$5.99 for wrapping.

Man: That's okay. I'll just put them in my jacket and do it myself later. Here's my credit card.

Woman: Here you go. I hope she likes them!

Man: Thanks. Now, all I need are some roses.

5. Where does this conversation most likely take place?

- ア. a hair salon イ. a flower shop
- ウ. a post office エ. a jewelry shop

6. What is special about the man's weekend?

- ア. It's his wedding anniversary. イ. It's his wife's birthday.
- ウ. He's retiring from work. エ. He's getting married.

7. What convinces the man to decide on his final purchase?

- ア. The earrings look quite old-fashioned.
- イ. The colorful earrings are currently on sale.
- ウ. The earrings look nice on the woman.
- エ. The pearl earrings are popular with young people.

8. What is the man most likely to do next?

- ア. ask the woman to wear them イ. put them in a bag
- ウ. get them gift-wrapped エ. stop at a flower shop

5

次の問1～4の英文を読み、話の流れに沿って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. Ever since that birthday, I have been playing them every day.
 2. It started when my mother bought me a game console for my 12th birthday.
 3. Next week I'm starting a new job, so I will not have time to play as much.
 4. I've been fascinated with video games since I was a boy.

ア. 4 → 2 → 1 → 3 イ. 2 → 4 → 3 → 1

ウ. 4 → 3 → 1 → 2 エ. 2 → 1 → 3 → 4

- 問2
1. Employers use this form to ensure that they have correct information for all candidates.
 2. Failure to do so will certainly result in an employer's deciding not to hire a candidate.
 3. The job application process usually includes an employment form.
 4. After completing it, candidates must sign it, indicating that their information is accurate.

ア. 2 → 4 → 3 → 1 イ. 3 → 2 → 1 → 4

ウ. 2 → 1 → 4 → 3 エ. 3 → 1 → 4 → 2

- 問3
1. Baxter slowly paced the room and then scratched at the door.
 2. After all, he had also acted anxiously when we changed apartments four year ago.
 3. It was obvious that he was anxious about being in his new home.
 4. This anxiety came as no surprise to me.

ア. 3 → 1 → 2 → 4 イ. 1 → 3 → 4 → 2

ウ. 3 → 4 → 2 → 1 エ. 1 → 2 → 3 → 4

- 問4
1. Most people are aware of the importance of plants and trees in creating oxygen.
 2. In fact, they generate far more oxygen than plants and trees, producing 70 to 80 percent of the oxygen that we breathe.
 3. However, not many people realize the importance of plankton.
 4. These tiny organisms are, therefore, essential to life on our planet.

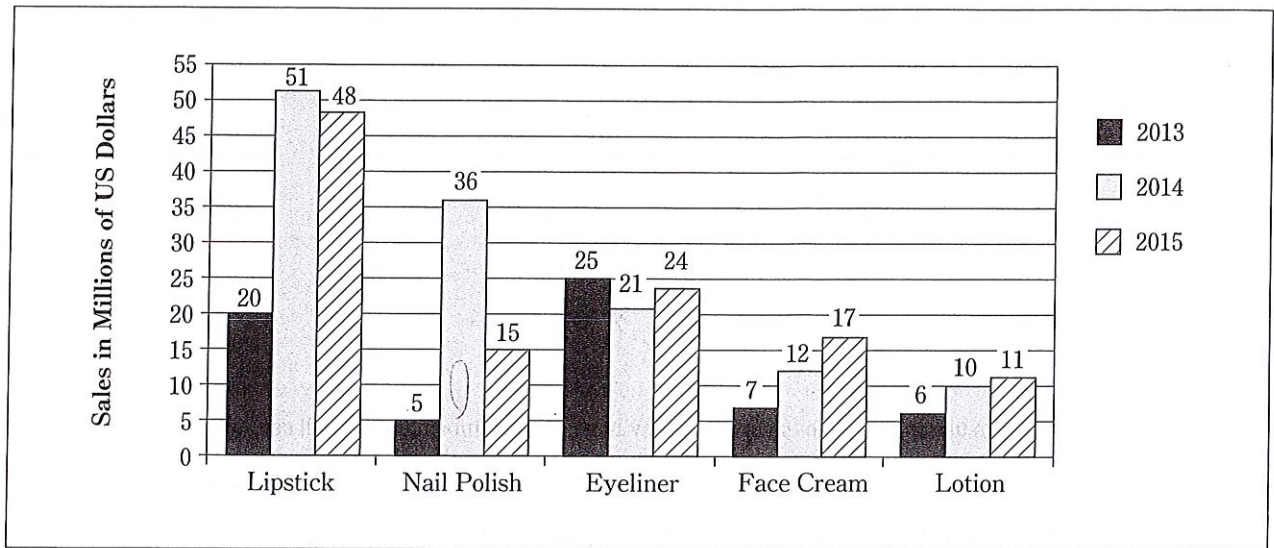
ア. 1 → 3 → 2 → 4 イ. 4 → 1 → 3 → 2

ウ. 1 → 2 → 3 → 4 エ. 4 → 3 → 1 → 2

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。

Sales of Five Products from Glick Cosmetics, 2013–2015



— 上記のグラフは架空のものです —

The above graph presents the sales of five products offered by Glick Cosmetics from 2013 to 2015. The data shows that sales for each product were lowest in 2013, with the exception of (1). While lipstick sales were not the highest in 2013, sales grew, and in 2014 and 2015, lipsticks became the leading product. In fact, the ratio of lipstick sales to eyeliner sales in 2015 was (2). In 2013, nail polish had the lowest sales among all products. However, nail polish sales in 2014 grew approximately (3) times, making it the second best-selling product that year. While face cream and lotion sales were not top sellers in 2013, sales for each did increase in the two subsequent years. Face cream sales increased by (4) million dollars from 2013 to 2014.

- | | | | |
|---------------------|-----------------|----------------|---------------|
| (1) ア. lipstick | イ. nail polish | ウ. eyeliner | エ. lotion |
| (2) ア. seven-to-two | イ. three-to-one | ウ. five-to-two | エ. two-to-one |
| (3) ア. two | イ. three | ウ. five | エ. seven |
| (4) ア. 2 | イ. 3 | ウ. 5 | エ. 7 |

7

次の英文を読み、下線部(1)と(2)を日本語に訳しなさい。(2)はItが示すものを明らかにしなさい。

Have you ever had trouble communicating with your friends? Intentions are not always clear to the ones we are speaking to. Misinterpretations can occur when people who are interacting with each other do not share the same values.
 (1)
 To overcome this problem, people engage in communication to reach a clear understanding of the message. This is called “negotiating meaning.” It requires effort and conversational strategies such as reading between the lines. Many linguists believe that negotiating meaning lies at the heart of every conversation, from a simple greeting to a request for more time to submit homework. People need to read the signals and respond accordingly for the conversation to naturally progress or end. Learning and participating in this process is fundamental in understanding what constitutes successful communication.

8

次の文の下線部(1)と(2)を英語に訳しなさい。

Long-distance migrants in the animal kingdom have fascinated scientists and non-scientists for hundreds of years. And for good reason; ある種の動物たちはもっとも驚くべき忍耐強さの行動をいくつか見せる。 For many people, the image of animal migration is seen in the seasonal movement of a flock of birds between their breeding and non-breeding sites. However, there are many other forms of animal movement: between east and west; complex round-trips involving land and ocean; altitudinal trips up and down mountains; and vertical passages through water. これらの旅は数多くの学者や研究プロジェクトを引きつけ、それがこの生物学的現象に対する私たちの理解を深める。
 (1) (2)