

平成29年度  
医学部  
入学試験問題



金沢医科大学

平成 29 年度 金沢医科大学医学部入学試験問題  
一般入学試験 ( 英語 )

1 In each of the questions [ 1 ] - [ 6 ], there is a blank marked \_\_\_\_\_. Choose the most appropriate answer from each list to fill in the blank.

[ 1 ] For your next assignment, first read the passage carefully. You then need to write two or three paragraphs in which you \_\_\_\_\_ whether or not you agree with the content of the passage, and explain why.

- ① concern      ② understand      ③ grow      ④ explode      ⑤ discuss

[ 2 ] A: I offered Jennie something to drink, but she said she didn't want anything.  
B: She \_\_\_\_\_ thirsty, then.

- ① must not be      ② could be      ③ doesn't have to be      ④ can never be      ⑤ has never been

[ 3 ] Welcome to West Medical Center. All visitors must register with the security desk located on the second floor, obtain a visitor's ID card and \_\_\_\_\_ entrance to the building.

- ① allow      ② to allow      ③ to be allowed      ④ be allowed      ⑤ allowing

[ 4 ] A: Hi Kim. Did you manage to get Jeff's phone number from Mary yesterday?  
B: Oh, hi Beth. Yes, \_\_\_\_\_. Thanks!

- ① clearly      ② mostly      ③ completely      ④ shortly      ⑤ eventually

[ 5 ] The usefulness of those new techniques and devices cannot be fully appreciated \_\_\_\_\_ a sufficient number has been tested in clinical practice.

- ① without      ② by      ③ until      ④ such as      ⑤ as long as

[ 6 ] A: There are many reasons some people prefer organic food these days. Organic food is definitely better for our health, and it is also better for the environment.  
B: But organic vegetables cost much more than regular vegetables, don't they?  
A: \_\_\_\_\_

- ① Exactly. That's why everyone eats them.  
② Certainly. They should know better.  
③ Yes, but consider their benefits.  
④ Yes. It's quite reasonable.  
⑤ Not at all. They can cause health problems.

2 In each of the questions [ 7 ] - [ 10 ], there are five underlined parts marked ①-⑤. Choose a number which indicates the part that must be changed for the sentence to be correct.

[ 7 ] A: I'd really like your ①advises about ②choosing a theme for the next project. Do you have ③a minute?  
B: Yes, of course, Angela. My door is always ④open to my students. What's ⑤on your mind?

[ 8 ] New Zealand coasts experience ①a regular dramatic change in sea level ②caused primarily by tides. On the north and west ③coasts the south island, the sea level may change ④up to 4 meters ⑤between high and low tides.

[ 9 ] The court will immediately start ①examining their claim and the evidence ②presenting and, ③if necessary, ④give orders to remove the material ⑤in question from the website.

[ 10 ] ①According to the newspaper article ②I'd read last night, a solar-powered airplane ③managed to land in suburban San Francisco Tuesday morning ④without incident after ⑤a daylong flight from Texas.

3 Read the passage below and answer the questions about it.

Each year about thirteen hundred seniors graduate from the University of Rochester and begin their journey into [ 11 ] many of their parents and professors like to call the real world. Edward Deci, Richard Ryan, and their colleague Christopher Niemiec decided to ask a sample of these soon-to-be graduates about their life goals—and then to follow up with them early in their (7) careers to see how they were doing. While much social science research is done with student (イ) volunteers, scientists rarely track students after they've packed up their diplomas and exited the campus gates. And these researchers wanted to study the post-college time frame [ 12 ] it represents a "critical development period that marks people's transitions to their adult identities and lives."

Some of these students had what Deci, Ryan, and Niemiec label "extrinsic aspirations"—for instance, to become wealthy or to [ 13 ] fame—what we might call "profit goals." 《 ① 》 Others had "intrinsic aspirations"—to help others improve their lives, to learn, and to grow—or what we might think of as (ウ) "purpose goals." 《 ② 》 After these

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students had been out in the real world for between one and two years, the researchers tracked (工)them down to see how they were doing. 《 ③ 》

The people who'd had purpose goals and felt they were attaining\* them reported higher levels of satisfaction and subjective well-being than when they were in college, and quite low levels of anxiety and depression. 《 ④ 》 They'd set a personally meaningful goal and felt they were reaching it. In that situation, most of us would likely feel pretty good, too.

But the results for people with profit goals were more complicated. Those who said they were attaining their goals—accumulating wealth, winning acclaim\*—reported levels of satisfaction, self-esteem, and positive affect no higher than when they were students. In other words, they'd reached their goals, but it didn't make them any happier. What's more, graduates with profit goals showed increases in anxiety, depression, and other negative indicators—again, [14] they were attaining their goals.

注 \* : extrinsic aspirations = external desires; attaining = reaching; acclaim = enthusiastic praise

1. For [11] -- [14] in the passage, choose the most appropriate word or phrase from each list.

- |                  |               |           |              |               |
|------------------|---------------|-----------|--------------|---------------|
| [11] ① that      | ② those       | ③ there   | ④ what       | ⑤ where       |
| [12] ① because   | ② before      | ③ even    | ④ so that    | ⑤ but         |
| [13] ① depend on | ② purchase    | ③ achieve | ④ recover    | ⑤ succeed     |
| [14] ① as far as | ② in spite of | ③ as if   | ④ except for | ⑤ even though |

2. For (ア)careers and (イ)volunteers, identify the most stressed syllable and choose a number for it.

- |                    |              |
|--------------------|--------------|
| [15] (ア)careers    | ca·reers     |
|                    | ① ②          |
| [16] (イ)volunteers | vol·un·teers |
|                    | ① ② ③        |

3. Which of the following may NOT be an example of (ウ)“purpose goals”? Choose ONE answer from the list.

- [17] ① visit a foreign country  
② care for the elderly  
③ make a lot of money  
④ learn to swim  
⑤ do volunteer work

4. What does (工)them refer to? Choose your answer from the list.

- [18] ① Deci, Ryan, and Niemiec    ② aspirations    ③ others    ④ lives    ⑤ students    ⑥ years

5. Look at the brackets 《 ① 》 - 《 ④ 》, which indicate where the following sentence could be added to the passage. Choose a number from ①-④ that indicates where the sentence would best fit.

- [19] 《That's probably no surprise.》

4. Read the passage below and answer the questions about it.

When he's happy, he will (1)stretch out his arms to greet you, wanting a big hug. When he's sad, he turns his head downward and appears lonely and unhappy, with his shoulders arched forward. When he's scared, he covers\* in fear, until someone pats him reassuringly on the head.

He's just like a one-year-old boy, except that he's a robot. Nao is about one and a half feet tall, and looks very much like some of the robots you see in a toy store, like the Transformers, except he's one of the most advanced emotional robots on earth. He was built by scientists at the UK's University of Hertfordshire, whose research was funded by the European Union.

His creators have programmed him to show emotions like happiness, sadness, fear, excitement, and pride. While other robots have simple facial and verbal gestures that communicate their emotions, Nao excels in body language, such as posture and gesture. Nao even dances.

Unlike other robots, which specialize in mastering just one area of the emotions, Nao has mastered a wide range of emotional responses. First, Nao locks onto visitors' faces, identifies them, and remembers his previous interactions with each of them. Second, he begins to follow their movements. For example, he can follow (ア)their gaze and tell what they are looking at. Third, he begins to bond with them and learns to respond to their gestures. For example, if you smile at him, or pat him on his head, he knows that this is a positive sign. Because his brain has neural\* networks, he learns from interactions with humans. Fourth, Nao exhibits emotions in response to his interactions with people. (His emotional responses are all preprogrammed, like a tape recorder, but he decides which emotion to choose to fit the situation.) And lastly, the more Nao interacts with a human, the better he gets at understanding the moods of that person and the stronger the bond becomes.

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Not only does Nao have a personality, he can actually have several of them. Because he learns from his interactions with humans and each interaction is unique, eventually different personalities begin to emerge. For example, one personality might be quite independent, not requiring much human guidance. Another personality might be timid and fearful, scared of objects in a room, constantly requiring human involvement.

The project leader for Nao is Dr. Lola Cañamero, a computer scientist at the University of Hertfordshire. To start this (2)ambitious project, she analyzed the interactions of chimpanzees. Her goal was to reproduce, as closely as she could, the emotional behavior of a one-year-old chimpanzee.

She sees immediate applications for these emotional robots. She wants to use these robots to relieve the anxiety of young children who are in hospitals. She says, "We want to explore different roles—the robots will help the children to understand their treatment, explain what they have to do. We want to help the children to control their anxiety."

Another possibility is that the robots will become companions at nursing homes\*. Nao could become a valuable addition to the staff of a hospital. At some point, robots like these might become playmates to children and a part of the family.

"It's hard to predict the future, but it won't be too long before the computer in front of you will be a social robot. You'll be able to talk to it, play with it, or even get angry and yell at it—and it will understand you and your emotions," says Dr. Terrence Sejnowski of the Salk Institute, near San Diego. This is the easy part. The hard part is to assess the response of the robot, given this information. If the owner is angry or displeased, the robot has to be able to (3)factor this into its response.

注 \* : cowers = moves back or bends low; neural = related to a nerve; nursing homes = places where old people can live and be cared for

1. For (1)stretch out, (2)ambitious, and (3)factor, choose ONE word or phrase for each that is closest in meaning in context from each list.

- |    |                |               |           |             |          |               |           |
|----|----------------|---------------|-----------|-------------|----------|---------------|-----------|
| 20 | (1)stretch out | ① support     | ② extend  | ③ loosen    | ④ undo   | ⑤ bring about | ⑥ put off |
| 21 | (2)ambitious   | ① challenging | ② anxious | ③ impatient | ④ modest | ⑤ doubtful    | ⑥ desired |
| 22 | (3)factor      | ① participate | ② risk    | ③ imagine   | ④ choose | ⑤ number      | ⑥ include |

2. What does (7)their refer to? Choose ONE answer from the list.

- 23 ① creators    ② emotions    ③ gestures    ④ other robots    ⑤ visitors    ⑥ interactions

3. According to the passage, which of the following statements best describes Nao? Choose ONE answer from the list.

- 24 ① Nao is an emotionally needy, one-year-old robot.  
② Nao is a short boy who likes to play games.  
③ Nao is a toy robot available to buy in toy stores.  
④ Nao is a robot designed to react emotionally.  
⑤ Nao was built by scientists at the European Union.

4. According to the passage, how is Nao different from other robots? Which of the following statements describe his differences? Choose TWO answers from the list.

- 25 ① His creators are better at expressing five different emotions.  
26 ② He is better at showing emotion with his body movements.  
③ His facial looks and features are more advanced.  
④ He has better control over a wider range of emotions.  
⑤ He is more physically attached to people and remembers them.

5. According to the passage, there are a number of likely future applications for emotional robots. Choose ONE application from the following list that is NOT mentioned.

- 27 ① to replace a physician or nurse  
② to help young children in hospitals  
③ to provide friendship to people in nursing homes  
④ to play with small children  
⑤ to be like a member of a family

6. According to Dr. Sejnowski, which of the following predictions about robots may become TRUE? Choose ONE answer from the list.

- 28 ① Robot development will take a long time.  
② Robots will yell at us if we talk to them.  
③ The Salk Institute will repair robots for free.  
④ It won't be hard for us to find a nice friend.  
⑤ Robots will understand people's emotions.

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5 Read the passage below and answer the questions about it.

A question that science has been trying to answer is what the perfect amount of exercise should be. So many things in health and medicine come with usage instructions, but not exercise. And even though we are told to spend at least 150 minutes engaged in moderate exercise per week, that guideline is so broad that it is meaningless to most people. Experts have had a problem determining the correct amount of exercise.

Although the best level of activity for any individual will be different, the data from two recent large-scale studies suggests that, generally speaking, the ideal amount of exercise for a long life is a little more than what many of us think, but we don't have to run marathons. And if we do like extreme exercise like marathons, the latest research also shows that intense or prolonged exercise is not likely to be [29] and could extend people's lives by years.

These impressive studies were published in 2015 in *JAMA*\* *Internal Medicine*. One of them, conducted by researchers with the National Cancer Institute, Harvard University, and other institutions, collected information about people's exercise habits from six large, ongoing health surveys. They managed to gather data from more than 661,000 adults. Then, the researchers created categories for these people based on how much they exercised on a weekly basis. There were those who didn't work out at all and some who exercised to extremes—working out for twenty-five hours per week or more, ten times the current recommendations. (7) Comparing fourteen years' worth of death records for these different groups, all of which were made up mostly of middle-aged folks, the researchers found that the people who didn't exercise at all were at the highest risk of early death. Not so surprising. But what was interesting is that those who did some form of exercise below the recommendations lowered their risk of an early death by 20 percent. That's a huge benefit for a little bit of effort. The individuals who completed the recommended 150 minutes per week of moderate exercise showed greater longevity benefits. These folks enjoyed 31 percent less risk of dying during the fourteen-year period compared with the people who never exercised.

The optimal amount of time, [30], to gain the most benefits was found to be 450 minutes per week, which is a little more than an hour a day. According to the data, the people who tripled the recommended level of exercise were 39 percent less likely to die early than people who never exercised. And they weren't spending this time running at full speed or maxing out\* their heart rate on a piece of gym equipment. They were working out moderately, mostly by walking. This was where the benefits hit their peak, though they didn't necessarily take a total U-turn after that. The few people who did extreme exercise, at least ten times the 150-minute recommendation, enjoyed roughly the same reduction in risk of death over the fourteen-year period as those who simply met the guidelines, but not as much as the 450-minute group. In other words, they didn't increase their risk of an early death, but they didn't get more health benefits for all those extra minutes exercising.

The second study, from Australia, shared a similar conclusion, though it was more focused on determining how intensity\* factors into the rate of death calculation. And it disproved the conventional wisdom that says frequent, vigorous exercise might contribute to an early death. Much to the contrary, the study found that spending lots of time engaged in vigorous activity increases longevity. As with the other study, the researchers first categorized the people in their sample, a group of more than 200,000 middle-aged Australian adults followed for more than six years, based on how much time they spent exercising and at what intensity level. (1) They wanted to see the difference between people who engaged in only moderate activity (e.g., social tennis, gentle swimming, or light household chores) and those who included at least some vigorous activity (e.g., competitive tennis, aerobics, jogging). Checking death statistics, the researchers confirmed what the other study concluded: meeting the exercise guidelines lowered the risk of early death by a lot. This held true even for people whose exercise was simply walking.

What probably [31] the researchers is that adding intensity—but not necessarily more time sweating—brought about substantial benefits. The people who spent up to 30 percent of their weekly workouts in vigorous activities were 9 percent less likely to die sooner than expected as compared to those who exercised for the same amount of time with no vigorous activity. And those who engaged in vigorous activity for more than 30 percent of their exercise time earned an extra 13 percent reduction in early death, compared with the group who had no vigorous activity.

The only big warning to these studies' conclusions is that the researchers had to rely on people's memories about their exercise habits. In other words, these were observational studies and not randomized experiments. So they can't definitely prove a direct relationship between any exercise amount and changes in risk of death, but there was enough evidence to say that exercise and death risks are associated. And the associations are indeed strong and consistent [32] to say that movement, and vigorous movement once in a while, does a body good.

注 \* : *JAMA* = *Journal of American Medical Association*; maxing out = reaching a maximum; intensity = the strength of something

1. For [29] – [32] in the passage, choose the most appropriate word or phrase from each list.

- |      |             |             |                |                    |              |
|------|-------------|-------------|----------------|--------------------|--------------|
| [29] | ① conscious | ② positive  | ③ harmful      | ④ ignorant         | ⑤ violent    |
| [30] | ① whereas   | ② in short  | ③ so far       | ④ however          | ⑤ therefore  |
| [31] | ① surprise  | ② surprised | ③ surprised at | ④ was surprised at | ⑤ surprising |
| [32] | ① well      | ② too       | ③ very much    | ④ a lot            | ⑤ enough     |

2. For the underlined sentence (7), find the MAIN VERB of the sentence. Choose ONE answer from the list.

- [33] ① Comparing    ② records    ③ were made    ④ found    ⑤ didn't exercise    ⑥ were

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3. What does (イ)They refer to? Choose ONE answer from the list.

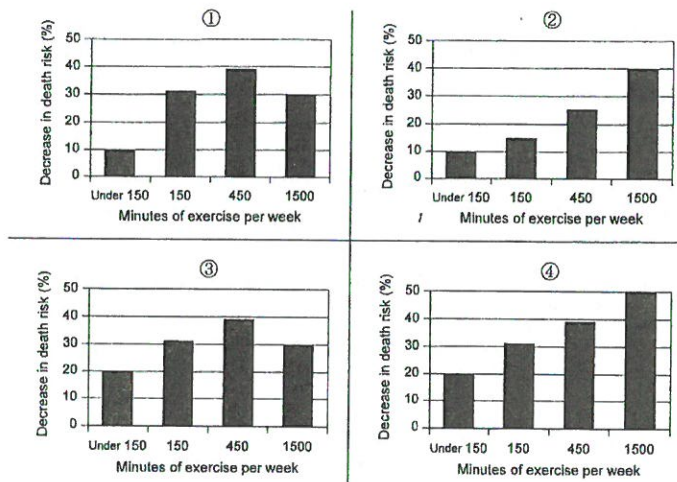
- 34 ① studies ② researchers ③ people ④ Australians adults ⑤ six years ⑥ time and level

4. Before the publication of the studies mentioned in the passage, which of the following exercise schedules equaled the generally recommended amount of exercise? Choose ONE answer from the list.

- 35 ① about 30 minutes of moderate exercise, 5 days a week  
② about 50 minutes of exercise a day, at least 5 times a week  
③ about 150 minutes of light activity, 3 days a week  
④ about 150 minutes a day of vigorous activity  
⑤ about 450 minutes of moderate activity, every other week

5. Which ONE of the following graphs ①-④ best matches the data from the first study reported in the passage?

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6. In what way was the study done in Australia different from the other study reported in the passage? Choose ONE answer from the list.

- 37 ① It suggested that the recommended amount of exercise was significantly lower than was previously believed.  
② It showed that frequent, vigorous exercise may result in early death.  
③ It focused more on determining a recommended level of exercise intensity, and not just exercise amount.  
④ It included only people who did vigorous exercise for more than 30% of the recommended amount.

7. In this passage, the results of two large-scale studies are reported. Choose ONE answer that best expresses the author's conclusion about the studies.

- 38 The author concluded that \_\_\_\_.  
① there is a connection between exercise amount and death risks  
② there are many people who do, and don't do, enough exercise  
③ there is a strong association between age and health in some countries  
④ there is no benefit from doing regular exercise