

平成 25 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 次の英文の [1] ~ [5] に入る最も適切な語句を、それぞれ①~⑤から 1 つ選びなさい。

- (1) I heard that the residents in this district have been [1] a legal battle with an enormous corporation.
① engaged in ② exhausted ③ developed by ④ arguing toward ⑤ debating for
- (2) I'm sure the physics professor [2] you more information on her new course if you had asked her.
① should give ② would give ③ would have given ④ might give ⑤ might have given
- (3) A: Beth, which one do you like the most?
B: I can't tell them [3]. They all look the same to me.
① separate ② apart ③ alone ④ difference ⑤ independent
- (4) [4] Katherine was admitted to the hospital, her classmates have never stopped bringing her notes from school.
① Because of ② In case ③ Unless ④ Ever since ⑤ As for
- (5) Ladies and gentlemen, we are about to introduce one of the most [5] scholars in all Asia.
① distinguished ② concerned ③ reluctant ④ respective ⑤ accompanied

2 次の会話文の [6] , [7] に入る最も適切な英文を、それぞれ①~④から 1 つ選びなさい。

- (1) A: Hi Mary. The dinner at your house the other day was great!
B: Thanks. I was really surprised that my grandmother made it to the dinner, too.
A: [6]
① Me, too! He is such a good cook! You should be proud of him.
② Oh, you didn't hear about it before? I made it for her.
③ I know. Nobody expected them to show up at the restaurant!
④ Well, what amazed me was how beautiful she looked.
- (2) A: It's freezing this morning again! Aren't you tired of this cold weather, Jessica?
B: [7]
A: Yeah.... You're right.
① Of course I do! It's been snowing all week this week.
② Yes, I'm very tired because I went skiing in the mountains yesterday.
③ Yes, but at least we know spring is just around the corner.
④ No way! You know by now that I hate cold weather.

3 次の英文を読み、問いに答えなさい。

If you handed me four DNA samples, and said one came from a person who lived in Japan, another from Spain, another from Nigeria, and a fourth from a Native American living in Arizona, I could go to the laboratory, spend a little time doing DNA analysis, and almost certainly tell you which was which. But my success would depend upon the fact that each of those individuals had ancestors who had lived in those areas for some time, so that their DNA reflected the features of those founders.

If, on the other hand, you gave me a DNA sample from the golfer Tiger Woods, I would have [8] time. By his own description, Woods is one-quarter Chinese, one-quarter Thai, one-quarter African-American, one-eighth Native American, and one-eighth Dutch. Nevertheless, by testing a sufficient number of DNA variations that are known to have somewhat different frequencies across the world, I could probably make a reasonable guess about his mixed ancestors.

In some instances, however, the commercial business of testing for ancestors has gotten a little ahead of the science. Some testing services even claim to be able to tell African-American individuals from which African village their original slave ancestors came. That could be correct only if relatively little movement had occurred within Africa [9] during the past few thousand years. Such precise conclusions would also require very comprehensive DNA sampling across all the villages of Africa, which is not yet available.

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As the ability of DNA analysis to predict ancestors has become more [10], this approach has begun to find its way into forensics* in new and complicated ways. Recently, police officers in Louisiana were on the trail of a serial killer, from whom (ア) they had derived a DNA sample from a bit of material left at the scene of the crime. Eyewitnesses disagreed about the physical features of the suspect, some reporting that he was black whereas others said he was white. [①] Using a psychological profile developed by the FBI, the authorities focused on searching for a white male aged 25 to 35. [② :] But a company that identifies DNA was called in. [③] It analyzed the sample and said the suspect was 85 percent sub-Saharan African and 15 percent Native American, and would be expected to be dark-skinned. [④] Eventually a black male was caught, and his DNA was found to match that collected at the crime scene. [⑤] After a court trial, he was found guilty of murder, and he is now serving a life sentence.

Some would say that this was a valuable support to police work, since it led to an arrest and a conviction*. However, [11] our inability to make precise predictions, one could also imagine an alternative situation in which such information could throw the police off the track and lead to arresting innocent parties.

This kind of "DNA profiling*" is likely to become more and more common as time goes on. Scientists are now in the process of identifying DNA variations that play a role in facial features, hair quality, and adult height. Might it be possible in the future that the police graphic artists will depend as much on the DNA sample as on the description of eyewitnesses?

注* : forensics (警察の) 科学捜査 ; conviction 有罪判決 ; profiling プロファイリング, プロフィール分析

(1) 文章中の [8] ~ [11] に入る最も適切な語句を, それぞれ①~⑤から1つ選びなさい。

- | | | | | | |
|----|--------------|--------------------|--------------|-----------------|--------------|
| 8 | ① an easier | ② a more difficult | ③ hardly any | ④ spent a fewer | ⑤ spent less |
| 9 | ① itself | ② himself | ③ themselves | ④ within | ⑤ before |
| 10 | ① curable | ② critical | ③ ready | ④ ultimate | ⑤ accurate |
| 11 | ① considered | ② counting | ③ given | ④ reminding | ⑤ to regard |

(2) 下線部 (ア) they が指しているものを, ①~⑦から1つ選びなさい。 [12]

- ① DNA analysis ② ancestors ③ forensics ④ new and complicated ways
⑤ police officers ⑥ serial killers ⑦ eyewitnesses

(3) 次の文が入る最も適切な箇所を, 文章中の [①] ~ [⑤] から1つ選びなさい。 [13]

The police work then shifted to a different list of suspects.

(4) 本文の内容と合う英文を, ①~⑦から2つ選びなさい。 [14]

- ① The author of this passage is most likely a physician from Arizona, a state where DNA profiling is commonly used.
② Tiger Woods found out that he was 25% African-American, 25% Thai and 50% Chinese with the help of DNA sampling.
③ The author thinks he can identify if a man is from Spain or from Japan if his ancestors had lived in the same area for some time.
④ Nowadays, people in private businesses have much more advanced DNA profiling techniques than university professors.
⑤ DNA sampling carried out across all the villages of Africa has helped people identify their ancestors more easily than before.
⑥ In a serial killer case, eyewitnesses at first did not agree to use DNA sampling because they thought it was not reliable enough.
⑦ Currently, the police are relying more on eyewitness descriptions of suspects than DNA but there is a chance that it may change in the future.

(5) 本文のタイトルとして最も適切なものを, ①~⑤から1つ選びなさい。 [15]

- ① A DNA sample uncovers mysteries of rare diseases
② The police and DNA profiling—the future of investigation methods
③ How can we turn DNA profiling into a successful business?
④ DNA can make predictions about ancestors and criminals
⑤ New discoveries on DNA may change the world

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4 次の英文を読み、問いに答えなさい。

Many runners start out walking. And after a period of time, many walkers decide they want to go farther and faster. 【 A 】 if you follow some basic rules. The change from walking to jogging means landing on your foot farther forward rather than on your heel like in walking. It's 《ア》【 17 18 】 your first jog. Perform this simple experiment in your living room or hallway without shoes. Just jog about ten or fifteen feet. You will naturally land farther forward on each foot and not on your heels. This is how you should jog.

【 B 】 and wearing flat-sole shoes (this means shoes without a big heel), start out with your normal walking warm-up. After twelve to fifteen minutes, begin jogging slowly. (イ) Keep an eye on your heart rate. Most people can jog slowly until reaching their maximum aerobic* heart rate. At this point, immediately stop jogging and start walking again at a fast pace. When your heart rate drops below your 10-beat aerobic range, assuming you are physically feeling good, start jogging again following the same heart rate guidelines. Typically, you will be able to alternate between walking and jogging until you are ready to cool down, which you should perform only by walking.

Let's take an example of someone who has been regularly walking five days a week for an hour—and, after several months of this system, is ready to jog. The first fifteen minutes is a walking warm-up, the next thirty minutes is a walk-jog pattern as described above, and the last fifteen minutes is a walking cool-down.

【 C 】 you will gradually be able to maintain more jogging and less walking in the middle part of your exercise. This occurs because you build better aerobic muscle function that enables you to jog more effectively, and burn more fat to provide the additional energy needed during jogging.

In time, you will be able to jog the whole thirty-minute period without having the heart rate go beyond your maximum aerobic heart rate. 【 D 】 depends on your consistency*, how strict you are in maintaining the proper heart rates, and your overall levels of health and fitness. Soon, more of your warm-up and cool-down can also be (ウ) accomplished by jogging. Eventually, your pace will quicken and your slow jog will turn to faster runs.

注* : aerobic 有酸素運動の ; consistency = the condition of being consistent

(1) 「あ～え」はそれぞれ本文中の【 A 】～【 D 】に入る。最も適切な順番を、①～⑩から1つ選びなさい。16

- あ. As time passes, い. Go outside,
う. How long this takes え. This is not a problem

- ① あ—う—い—え ② あ—え—う—い ③ い—あ—え—う ④ い—う—え—あ
⑤ う—あ—い—え ⑥ う—い—え—あ ⑦ う—え—あ—い ⑧ え—あ—い—う
⑨ え—う—い—あ ⑩ え—い—あ—う

(2) 《ア》の空欄に入る①～⑤の語句を並べかえて文を完成させ、17, 18 に入る語句を、番号で答えなさい。

- ① is like ② outside for ③ feel what this ④ before venturing ⑤ important to

(3) 文脈から下線部の語句(イ), (ウ)に意味の上で最も近いと思われる語句を、それぞれ①～⑤から1つ選びなさい。

- 19 (イ) Keep an eye on ① take care of ② monitor ③ look down on ④ maintain ⑤ cease
20 (ウ) accomplished ① pursued ② occupied ③ prescribed ④ achieved ⑤ applied

(4) 次の質問に対する最も適切な答えを、①～⑤から1つ選びなさい。21

If you have just started jogging recently, how should the cool-down be done?

- ① By alternating between jogging and walking.
② By jogging.
③ By walking.
④ By making your heart rate drop below the 10-beat range.
⑤ By maintaining the proper heart rate.

5 次の英文を読み、問いに答えなさい。

Your life is filled with (ア) routine—you set your alarm clock at night, take a shower in the morning, brush your teeth after breakfast, and 24 your seat belt. With each of these actions and many others every day, you (イ) acknowledge the power of predictability, the power to predict what is going to happen. If you don't set the alarm,

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you will probably be late for work or school. If you don't take a shower, you will probably smell. If you don't brush your teeth, you might end up with bad teeth. If you don't wear your seat belt and then get into a freeway accident, you may get hurt or die.

We all seek order to deal with uncertain things or situations in life. We look for patterns to help us cope. Scientists do the same thing. They constantly examine nature, guided by one big principle: the universe is regular and predictable.

The universe is not random. The sun comes up every morning, the stars sweep across the sky at night. The universe moves in regular, predictable ways. Human beings can understand the regularities of the universe and can even uncover the basic, simple laws that produce them. We call this activity "science."

Science is one way of knowing about the world. The unspoken [25] behind the scientific endeavor is that general laws, which can be discovered by the human mind, exist and govern everything in the physical world. In (ウ) its most advanced form, science is written in the language of mathematics, and therefore is not always easily accessed by the general public. But, like any other language, the language of science can be translated into simple English. When this is done, the beauty and simplicity* of the great scientific laws can be shared by everyone.

Science is not the only way, [26] always the best way, to gain an understanding of the world in which we find ourselves. Religion and philosophy help us understand the meaning of life without the need for experiments or mathematics, while art, music, and literature provide us with a kind of aesthetic* knowledge that cannot be measured by quantity. You don't need mathematics to tell you whether a symphony or a poem has meaning for you. Science is the perfect addition to these other ways of knowing, providing us with insights about a different aspect of the universe.

注* : simplicity 明快さ, 単純さ ; aesthetic 美に関する, 美的な

(1) 下線部の語(ア),(イ)と第一強勢のある母音の発音が同じ語を, それぞれ①~⑤から1つ選びなさい。

- | | | | | | |
|----------------------|-----------|--------------|----------|--------------|----------|
| [22] (ア) routine | ① council | ② religion | ③ reduce | ④ load | ⑤ skiing |
| [23] (イ) acknowledge | ① allow | ② photograph | ③ foul | ④ philosophy | ⑤ other |

(2) 文章中の [24] ~ [26] に入る最も適切な語句を, それぞれ①~⑤から1つ選びなさい。

- | | | | | |
|----------------|--------------|------------|------------------|----------|
| [24] ① require | ② tie | ③ fasten | ④ put off | ⑤ afford |
| [25] ① refusal | ② assumption | ③ vision | ④ offer | ⑤ tact |
| [26] ① even | ② neither | ③ which is | ④ whether or not | ⑤ nor |

(3) 下線部(ウ) its が指しているものを, ①~⑥から1つ選びなさい。 [27]

- | | | |
|-----------------------|-------------------------------|----------------------|
| ① scientific endeavor | ② the human mind | ③ the physical world |
| ④ science | ⑤ the language of mathematics | ⑥ the general public |

(4) 本文の内容と合う英文を, ①~⑦から2つ選びなさい。 [28]

- ① Scientists do not actually believe that the universe is predictable and consistent.
- ② It is impossible to discover even simple laws that produce regularities in the universe.
- ③ Complicated scientific language can be simplified so that it is easy to understand.
- ④ The author thinks science is perfect and believes that it is the only way to understand our world.
- ⑤ In order to fully understand the beauty of music, we need the help of mathematics.
- ⑥ Real scientists must have a deep knowledge of religion, philosophy, music and art.
- ⑦ If you neglect to wear a seatbelt and are involved in a serious accident, you could kill yourself.

[6] 次の英文を読み, 問いに答えなさい。

In Helena, Montana, in June 2002, the community [29] to ban smoking in all public places, including restaurants, bars, and casinos. Shortly thereafter, physicians at the local hospital observed that admissions for heart attacks were declining, and they initiated a study with the cooperation of the University of California at San Francisco to find out why. They determined that there was no change in heart attack rates for patients who lived outside the city, but that a 58 percent reduction in rates had occurred for city residents in only six months following the smoking ban. The researchers concluded that the reduction was largely due [30] the exposure of nonsmokers

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to cigarette smoke in public places. Smokers affect the quality of air breathed in by everyone in enclosed locations like homes, offices, automobiles, bars, and restaurants. The most responsible thing is the irritant* and carcinogenic* material (“tar”) released by burning tobacco in the smoke that is breathed in by both smokers and the nonsmokers around (ア) them.

This is why second-hand or passive smoking is so dangerous. Eight hours of working in a smoky bar is the [31] of smoking a pack of cigarettes a day. Nonsmokers who work in such places are twice as likely to develop lung cancer than nonsmokers working elsewhere. Only 30 minutes exposure to second-hand smoke causes blood to become stickier, which makes it easier to form clots* that can block arteries* and cause heart attacks. As a consequence, New York City banned smoking in bars and restaurants in 2003. Ireland banned smoking in bars and all public places in 2004 and the city of San Francisco did similarly in 2005. [32] the Montana State Legislature, under pressure from the tobacco industry and the Montana Bar Association, cancelled the smoking ban in Helena in December 2002. Heart attack 《イ》 [34] [35] down. The current situation in Helena is a ban on smoking in restaurants and public places if persons under the age of 18 years frequently visit the premises. But smoking is allowed in places such as bars if persons under 18 are denied entry.

注* : irritant 刺激物 ; carcinogenic 発がん性の ; clots 血塊 ; arteries 動脈 (複数形)

(1) 文章中の [29] ~ [32] に入る最も適切な語句を、それぞれ①~⑤から1つ選びなさい。

- | | | | | | |
|------|--------------|------------------|--------------|-----------------|---------------------|
| [29] | ① presumed | ② wondered | ③ considered | ④ persuaded | ⑤ voted |
| [30] | ① preventing | ② for prevention | ③ to prevent | ④ to preventing | ⑤ to have prevented |
| [31] | ① same | ② equivalent | ③ similar | ④ opponent | ⑤ resembling |
| [32] | ① Because | ② Therefore, | ③ However, | ④ In spite of | ⑤ Contrary to |

(2) 下線部 (ア) them が指しているものを、①~⑥から1つ選びなさい。 [33]

- ① researchers ② public places ③ enclosed locations
④ homes, offices, automobiles, bars, and restaurants ⑤ materials ⑥ smokers

(3) 《イ》の空欄に入る①~⑤の語句を並べかえて文を完成させ、[34] , [35] に入る語句を、番号で答えなさい。

- ① they had come ② in the city ③ as quickly as ④ rates ⑤ jumped up almost

(4) 本文の内容と合わない英文を、①~⑦から3つ選びなさい。 [36]

- ① The results of the study revealed that there was no difference in the number of heart attacks for people who lived outside the city.
② Although the smoking ban was cancelled in Helena, smoking is still prohibited for people over 18 years old.
③ Local hospital doctors in Helena noticed that the number of patients admitted to the hospital for heart attacks had decreased.
④ People who work in smoke-filled environments are more likely to suffer from lung cancer and heart attacks than nonsmokers working in smoke-free environments.
⑤ For city residents, heart attack rates went down to only 58 percent in half a year after smoking was banned.
⑥ New York was one of the states that banned smoking in all public places including bars and restaurants in 2005.
⑦ Just a half an hour exposure to tobacco smoke increases the possibility of heart attacks.