

平成26年度

熊本県立技術短期大学校

一般入学試験問題

英語 I

【受験上の注意】

- 1 「解答始め」の合図があるまでは、問題用紙・解答用紙を開かないこと。
- 2 「解答始め」の合図があったら、まず問題用紙・解答用紙の枚数の過不足を確かめること。
- 3 次に、所定の位置に受験番号を記入すること。
- 4 印刷不明、トイレ等の場合は、静かに手を上げて試験監督者に合図し、指示を受けること。
- 5 「解答やめ」の合図があったら、直ちに鉛筆を置き解答を止めること。
- 6 受験中に机の上に置くことのできるものは、受験票、鉛筆、シャープペンシル、鉛筆削り、消しゴム、時計(時計機能だけのもの)及び眼鏡のみとする。
- 7 翻訳機能をもつ機器並びに音を発する機器の使用は禁止する。

熊本県立技術短期大学校一般入学選抜試験

英語 I

1. 次の英文を読んで、設問 A, B, C, D に答えなさい。（*印の語は注を参照しなさい。）

It's the legal version of blood doping*. Instead of injecting ⁽¹⁾ themselves with blood before competition or taking drugs to stimulate the production of oxygen-carrying red blood cells, many endurance* athletes spend time in the thin air of high altitudes*. The idea is to get their muscles (ア) oxygen more efficiently so that when they return to lower altitudes, they have an advantage over their competition. But a new study on patients with a genetic disorder* that makes their bodies act as if they're always living at high altitudes suggests that too much "altitude doping" is not beneficial—and it could even hurt performance.

The body responds to the thin air at high altitudes by producing proteins in the hypoxia-inducible factor (HIF) family*. HIF stimulates the production of red blood cells and builds capillaries* to deliver more oxygen to the muscles. Yet some people have a rare genetic disorder in which HIF never gets broken down, so the levels are always high, as if they spent their days in the mountains. "In the U.K., as (イ) as we know, there are no more than 20 of these patients," says physiologist Federico Formenti of the University of Oxford in the United Kingdom.

To see what happens (ウ) people who have too much HIF, Formenti and colleagues recruited five of the patients and five healthy people to the university for two days of tests. The volunteers rode vigorously on a stationary bike, bent their ankle while lying in a machine that measured an index* of tiredness in the muscle, and had muscle biopsies* taken. The researchers found that the patients weren't able to exercise as hard as the healthy people because their muscles weren't using energy as efficiently. Even very light exercise tired ⁽²⁾ them out* quickly. The patients have few symptoms; they're usually diagnosed after a routine blood test finds high levels of hemoglobin. One of the subjects was even a professional cricketer. "We had a laugh, saying cricket is not actually a sport—you don't have to run for a long time," says Formenti. He thinks that these patients may be at an athletic disadvantage because ⁽³⁾ having too much HIF in the bloodstream has other effects that are greater than the benefits of more red blood cells and more capillaries.

In theory, athletes who train for long periods of time at high altitudes would be no different (エ) these patients, says Formenti. And that means that long-term training at high altitudes could actually be bad for athletes who have to run, cycle, or swim for long periods.

(注) blood doping (自分の血液を輸血して持久力を高める) 血液ドーピング endurance 持久力 (の必要な) high altitude 高地 genetic disorder 遺伝性疾患 hypoxia-inducible factor (HIF) family 低酸素誘導因子族 capillary 毛細血管 index 指数 biopsy 生体検査 tire ~ out ~を疲れ果てさせる

A. 空所 (ア) ~ (エ) に入る最も適切な語を 1 ~ 4 の中から 1 つ選び、その番号を解答欄に記入しなさい。

- | | | | | |
|-----|---------|-----------|--------------|-------------|
| (ア) | 1. used | 2. to use | 3. have used | 4. had used |
| (イ) | 1. many | 2. much | 3. always | 4. far |
| (ウ) | 1. to | 2. from | 3. on | 4. at |
| (エ) | 1. in | 2. into | 3. at | 4. from |

B. 下線部 (1) と (2) の指示するものとして最も適切なものを 1 ~ 3 の中から 1 つ選び、その番号を解答欄に記入しなさい。

- (1) 1. drugs
2. many endurance athletes
3. their muscles
- (2) 1. the researchers
2. the patients
3. the healthy people

C. 下線部 (3) の日本語訳として最も適切なものを 1 ~ 3 の中から 1 つ選び、その番号を解答欄に記入しなさい。

1. 血流中の過剰な HIF は赤血球や毛細血管が増えるという予想外の効果も持つ。
2. 血流中に過剰な HIF があると、赤血球や毛細血管が増えるという利点を上回る他の影響がある。
3. 血流中にたくさんの HIF があると、赤血球や毛細血管が増えすぎるのを防ぐという他の効果もある。

D. 1～4の中から本文の内容に合致するものを1つ選び、その番号を解答欄に記入しなさい。

1. 持久力の必要な運動選手が空気のうすい高地で激しいトレーニングするのは違法である。
2. HIF は、赤血球を刺激し、より多くの酸素を脳に送るのに役立つ。
3. オックスフォード大学の Formenti とその同僚は 10 人の被験者に 2 時間のテストを行った。
4. 高地での長期のトレーニングは、長時間走ったり、自転車に乗ったり、泳いだりする運動選手に悪影響を与えることがある。

2. 次のア～コの空欄に入る最も適切な答えをそれぞれ 1～4の中から1つ選び、その番号を解答欄に記入しなさい。

ア. It would be a good idea () abroad to improve your English.

1. to studying 2. study 3. studied 4. to study

イ. Please don't hesitate to () me if you need any help.

1. contacting 2. contacted 3. contact 4. contact with

ウ. Students should avoid walking () the woods on their way to school.

1. through 2. though 3. against 4. at

エ. Although he () baseball for only a few months, he is very skillful.

1. has been played 2. has playing 3. has played 4. is playing

オ. He often () at the back of the class.

1. will sitting 2. sits 3. be sitting 4. was seat

カ. The knife is very (), so please be careful when you use it.

1. dim 2. brilliant 3. sharp 4. danger

キ. I'm looking for () paper for the printer.

1. its 2. some 3. anything 4. this one

ク. If you work (), you will be paid extra money.

1. hardly 2. on Sunday 3. last week 4. legally

ケ. John changed jobs () get a higher salary.

1. unless he 2. in order 3. in order to 4. less he

コ. The next meeting () next Wednesday.

1. will be held 2. will hold 3. is to hold 4. holding

3. 次の(1)～(5)の日本語に当てはまるように、空欄(ア)～(オ)に1～8の中から最も適切な語を1つずつ入れて英文を完成しなさい。答えは解答欄に1～8の番号を記入しなさい。尚、文頭の語も小文字になっています。(各問の空欄には同じ語を2度使うことはありません。)

(1) 今年の夏休みはどこに行くの。

(ア) are (イ) going (ウ) (エ) summer vacation (オ) year?

- | | | | |
|---------|---------|----------|----------|
| 1. your | 2. he | 3. which | 4. where |
| 5. this | 6. last | 7. for | 8. you |

(2) お客様は、お出かけの際、フロントに鍵を預けてください。

(ア) should (イ) their keys (ウ) the front desk (エ) they (オ) out.

- | | | | |
|-----------|-------|---------|---------|
| 1. leave | 2. go | 3. come | 4. then |
| 5. guests | 6. at | 7. into | 8. when |

(3) 時間ほど大切なものはないとよく言われる。

(ア) is (イ) said that (ウ) (エ) more precious (オ) time.

- | | | | |
|---------|---------|------------|---------------|
| 1. than | 2. tell | 3. is | 4. everything |
| 5. no | 6. it | 7. nothing | 8. often |

(4) よく笑って、皆と話したりする人は仕事がうまくいくことが多い。

People (ア) smile (イ) lot and talk to everyone tend (ウ) do (エ) (オ) work.

- | | | | |
|---------|----------|--------|---------|
| 1. well | 2. whose | 3. who | 4. at |
| 5. to | 6. a | 7. the | 8. much |

(5) 彼女はいつも最初に来て、最後まで残っていた。

She (ア) always (イ) first (ウ) arrive (エ) the last to (オ).

- | | | | |
|--------|--------|----------|---------|
| 1. am | 2. the | 3. leave | 4. to |
| 5. and | 6. was | 7. him | 8. when |