平成18年度入学試験問題

英　語

英　語　Ⅱ
リーディング
ライティング

(注 意 事 項)

1. 問題冊子は指示があるまで開かないこと。
2. 問題冊子は11ページ，解答紙は6枚である。「始め」の合図があったらそれぞれを確認すること。
3. 解答紙それぞれの2箇所に受験番号を記入すること。
4. 解答はすべて解答紙の所定の欄に記入すること。
5. 経済学部経済工学科の配点は，表示されているものの $\frac{7}{4}$，農学部については $\frac{5}{4}$ です。

〔1〕 次の英文を読み，設問に答えなさい。(60点)

Although newspapers and magazines regularly show images of beautiful people, places, and things, it (1) is rare to come across an article that actually tries to explain what beauty is. And those few pieces are almost always devoted to a single theory: the theory of proportion. Typically they cite research carried out on the faces of film stars — Marilyn Monroe (2) tends to be the first choice. It is then noted that the features of her face exhibit certain simple ratios. Her forehead is precisely as high as her nose is long; the space between her *nostrils and her upper lip is one third the length of her nose; and so on. From this the conclusion seems to follow that beauty is a matter of proportion. This is not a new idea; it is, in fact, the oldest idea about the nature of beauty.

Concern with proportion, as the secret of beauty, goes back to Pythagoras. He was a Greek mathematician — of the sixth century BC — and the founder of a religious cult devoted to the idea of *reincarnation. He thought a lot about triangles. One of his great areas of research was music. And in this field he made a very impressive discovery (3). A stretched piece of string, when plucked, produces a note. If you get another piece of string exactly half the length of the first and pluck it as well, the two notes will be in harmony. Together they define what we now call an octave. This discovery may sound quite common but it is in fact quite astonishing. The strings sound harmonious when plucked at the same time. The notes "go together." This experience of the aural pleasure of harmony turns out to be governed by something totally unexpected: the mathematical proportion between the lengths of the strings. And this doesn't just work for one proportion. Strings of two thirds or three quarters the length of the first also produce pleasant harmonies. Quality, it seems, is governed by quantity.

The Pythagorean term for beauty was "cosmos" — a meaning still resonant

in the aims of cosmetic surgery and the application of lipstick. And we have come to use this word not just for certain techniques designed to enhance personal appearance but also for everything — for the universe as a whole. In Pythagorean terms there is nothing surprising about using a single word (4) to refer to beauty and to the totality of things. For Pythagoras had the conviction that beauty is the central explanatory concept we require for understanding pretty much everything and anything. Behind the apparent mess and confusion of the observable world lies a simple mathematical order. It was a first dream of science (5): there are presiding laws of the universe — and we might be able to find out what they are. But the dream of Pythagoras has this particular addition: beauty — as revealed in musical harmony — is the key to the order of the universe. The universe is not just ordered; it has a beautiful order. When we are delighted by musical harmonies we thrill, Pythagoras believed, to the fundamental order of all things.

This doctrine led eventually to a deeply exotic notion: the music of the *spheres (6). Each planet was supposed to emit a note, determined by the speed of its passage along its orbit. From this it seemed to follow that there must be eight heavenly bodies, each corresponding to a distinctive note on the octave; together producing the most perfect musical harmony. Beauty is the key to nature.

Pythagoras was also impressed by another feature of music: its relation to the passions. Wild music can rouse our emotions; gentle music can have a calming effect. Pythagoras took it that the soul can be out of harmony (when we are distressed or miserable) and in harmony (when we are happy). Music affects us by altering — for better or worse — the inner harmony of the soul.

Thus it was not, he reasoned, an accident that some things strike us as beautiful and others as ugly. Beauty is a matter of mathematical proportion; a piece of music, or a face, exhibits a simple mathematic ratio; and this pleases us because our own souls are also governed by the same ratios. (7) The

underlying issue here is a serious one. It is one thing to assert that we find simple proportions attractive; another to try to explain why we do. Pythagoras thought he could explain the pleasure we take in simple harmonies by reference to a view of human nature. The structure of the soul is, he thought, essentially the same as the structure of the universe.

*nostrils：鼻孔　*reincarnation：霊魂流転説　*spheres：天球・天体

問 1. 下線部(1) it が表す内容を日本語で答えなさい。(6点)

問 2. 下線部(2) Marilyn Monroe の顔の具体的な特徴を2つ日本語で書きなさい。(8点)

問 3. 下線部(3) a very impressive discovery が指す内容を具体的に日本語で答えなさい。(10点)

問 4. 下線部(4) a single word が指す単語を本文から抜き出しなさい。(4点)

問 5. 下線部(5) a first dream of science とは何か，具体的に日本語で答えなさい。(10点)

問 6. 下線部(6) the music of the spheres について具体的に日本語で説明しなさい。(10点)

問 7. 下線部(7)を日本語に訳しなさい。(12点)

〔2〕 次の文章は，タンザニアの学校で英語を教えているアメリカ人が“Test Day”と題して書いたものです。この英文を読み，設問に答えなさい。(45点)

Testing is a futile exercise in so many ways. For most of my students, all forty-seven of them on a good day, English is their third language, after Swahili and Masai. My own Swahili is very bad, and even though we've been working on prepositions for some time, I still have no idea what the Swahili word for “preposition” is, or if there is one.

Instead, I'm reduced to crude hand gestures and bad drawings on the board. (1) Walking around the room, glancing at the papers, I can see this hasn't worked as well as I thought it would. Instead, judging from their writing, preposition *roulette is the favorite strategy once again.

(2) “Go apologize to your brother by punching him in the nose.”

“Where should I get *inward* the bus?”

“What sort of things are you interested *at*?”

Our school is a small one, not far from Arusha, the semi-cosmopolitan urban center of northern Tanzania. We have eight classrooms, which are located at intervals down a hill. The students begin at the top, and after a four-year downhill slide, they end up with their “certificate.” My students are about mid-slide, in the third year. I'm here for the year on a mostly self-funded teaching program, the idea being that, as an English speaker, I should have enough grasp of it to pass it along. (3) This, in other words, is test day for me, too.

My only real ambition here has been to leave them with a few practical English skills — how to write a letter, for example. Something to help them get a job in town, or at least pass their national exam.

On test day, walking between the desks, I see how far we are from such high goals. There are about three students in the class who might be able to do well, but most of them come to school, sit, talk, use cheat sheets I can never find, and don't pay attention, except on days when I give up on grammar and answer questions about America.

"Is it true," they would ask, "that the government gives every American a gun at age eighteen?" "Is it true that even the poorest Americans have twelve cars?" "What's up, man?" they would ask. "Hey," I'd say. "Not much."

Those days were the best of all, the days when I felt that I really had something to offer, something they wanted to know. These were the days we (4) connected. These were the days when they sat fascinated as I unlocked the secrets of America, and they, in turn, unlocked their own country, giving me all the street language I could use. But there was no slang on the national syllabus, and it didn't help them on test day.

The students hand in the tests, and the scores are terrible again. I'm not even sure how to grade them. If I make it on a curve, it will be a very small bump. The hardest part is that I know they could do it if they had the chance, if they had some hope. But there are too many obstacles and too few incentives. Most of my students will be married off or end up putting their certificate to work in the fields.

Yet as with so many things in Tanzania, we move on. (5) Life is hard here, but giving up is even harder, and it's not really an option. So we go forward, to the next test, the next lesson. Along the way, we look for hope and laughter and comfort where there is little, and make our own where there is none.

*roulette：ルーレット(ゲームの一種)

問 1. 下線部(1)を this が指す内容を明らかにして日本語に訳しなさい。(10 点)

問 2. 下線部(2)が自然な意味になるように，本文の説明を踏まえて，1 語訂正しなさい。解答欄に誤りの語と正しい語を書きなさい。(5 点)

問 3. 下線部(3)のように筆者が考える理由を日本語で説明しなさい。(10 点)

問 4. 下線部(4)の意味を本文に即して具体例を挙げながら日本語で説明しなさい。(10 点)

問 5. 下線部(5)の表す内容を本文に即して日本語で説明しなさい。(10 点)

〔3〕 次の英文を読み，設問に答えなさい。(35点)

Is nothing sacred? Even the idle weekend pastime of skipping stones on a lake has been taken apart and reduced to a mathematical formula.(1)

Everyone knows a stone bounces best on water if it's round and flat, and spun towards the water as fast as possible. Some enthusiasts even travel to international stone-skipping competitions, like world champion Jerdone Coleman-McGhee, who made a stone bounce 38 times on Blanco River, Texas, in 1992.

Intuitively, a flat stone works best because a relatively large part of its surface strikes the water, so there's more bounce. Inspired by his eight-year-old son, physicist Lydéric Bocquet of Lyon University in France wanted to find out more. So he tinkered with(A) some simple equations describing a stone bouncing on water in terms of its radius, speed and spin, and taking account of gravity and the water's drag.(B)

The equations showed that the faster a spinning stone is traveling, the more times it will bounce. So no surprise there. To bounce at least once without sinking, Bocquet found the stone needs to be traveling at a minimum speed of about 1 kilometer per hour.

And the equations also backed his hunch(C) that spin is important because it keeps the stone fairly flat from one bounce to the next. The spin makes the stone stable, preventing it from tipping(D) and falling sideways into the water.

To match the world record of 38 bounces using a 10-centimeter-wide stone, Bocquet predicts it would have to be traveling at about 40 kilometers per hour and spinning at 14 revolutions a second. He adds that drilling lots of small pits in the stone would probably help, by reducing water drag in the same way that dimples on a golf ball reduce air drag.

He and his team at Lyon hope to design a motorized "catapult" that can throw stones onto a lake with a precise speed and spin, to test if the predictions stand up.(E)

問 1. 下線部(1) mathematical formula とほぼ同じ意味の語を本文より 1 語抜き出しなさい。(3 点)

問 2. 下線部(A)～(E)の語句に最も意味が近いものを，それぞれについてア～エの中から 1 つ選び，記号で答えなさい。(10 点)

(A) tinkered with

ア distinguished　イ flew　ウ improved　エ rang

(B) drag

ア color　イ medicine　ウ resistance　エ weight

(C) hunch

ア bump　イ dream　ウ error　エ intuition

(D) tipping

ア ending　イ giving advice　ウ giving money　エ leaning

(E) stand up

ア are valid　イ contradict

ウ represent　エ rise to the feet

問 3. 一般的にどのような形状の石を投げれば水面でよく弾むと考えられているか，本文に則して日本語で 2 つ書きなさい。(6 点)

問 4. 石を水面で何回も弾ませるために，物理学者 Bocquet が数式によって示した条件を 2 つ日本語で書きなさい。(6 点)

問 5. 石を水面で弾ませるために，**問 3** と**問 4** で挙げられた条件の他に Bocquet がさらに提案していることは何か，また，それがなぜ有効なのか，日本語で述べなさい。(10 点)

〔4〕 次の英文は，ノーベル平和賞の受賞が決まったMs. Wangari Maathaiへの電話インタビューからの抜粋です。この内容を80語程度の英文にまとめなさい。ただし，本文中の語句を用いてもよいが，文をそのまま引用しないこと。(30点)

Wangari: Hello?

Interviewer: Hello, Professor Wangari?

Wangari: Yes, how are you? I am here in Nairobi celebrating like crazy.

Interviewer: We are so happy to congratulate you here from Stockholm. My name is Marika Griehsel and I am calling from the Nobel Foundation.

Wangari: Yes.

Interviewer: A few hours have passed since you got the message. How do you feel today?

Wangari: I'm still trying to believe it is true, it is me, it is real. For it's a lot of emotions to process.

Interviewer: What are the strongest emotions for you personally at the moment?

Wangari: Just the thought of our being recognized as . . . , having made that impact on the Nobel Committee, the fact that the Committee was able to see that what is important for us in the world is not only to bring peace . . . but also to recognize that the fight over natural resources is usually the source of conflict.

Interviewer: Looking at the role of African women in trying to build peace and a sustainable future, in which way will this prize impact their future role on the continent?

Wangari: Well, I'm sure that many people who are involved in an environmental effort . . . they will be pretty much encouraged by this recognition, and they will realize that what they're doing is extremely important, and I'm sure it is not only here in Africa,

but also throughout the world. We have received the congratulations from practically every place of the world.

Interviewer: If I may ask you, which issues do you see as the most pressing issues to work on, from your point of view?

Wangari: Well, the issue of environment in Africa, and the issue of good governance are issues that are still needing a lot of work in this continent. And therefore I will continue to work in this area. And I know that this prize has given me a special responsibility as spokesperson, not only here in Kenya, but in the whole of Africa. And there is plenty to be done.

Interviewer: Thank you very much, Professor Wangari Maathai. And we will be looking forward to seeing you here in the Nordic countries in the next couple of months. Thank you very much.

Wangari: Thank you very much. Good-bye.

〔5〕 Based on your own experiences, write an essay in English (about 100 words) to explain "Shoogatsu" (正月) to foreigners who are not familiar with it. (30点)