福井大学　一般
前期

平成25年度入学者選抜学力検査問題

外　国　語

英　語

（医　学　部）

注　意　事　項

1　試験開始の合図があるまでこの冊子を開いてはいけない。

2　問題は[I]から[四]まである。
　試験開始の合図のあとで問題冊子の頁数（1 ～ 8 頁）を確認すること。

3　解答は必ず解答用紙の所定の欄に記入すること。
　所定の欄以外に記入したものは無効である。

4　解答用紙は持ち帰ってはいけない。

5　問題冊子は持ち帰ってよい。

福井大学

問　題　訂　正

科目名（　外国語　）

[問題訂正]

問題用紙
Ｐ５　Notesの３行目

（誤）「Ventilator 人口呼吸器」
↓
（正）「Ventilator 人工呼吸器」

（この頁は空白）

I 次の英文を読み，空所(1)から(15)を補うのに適切な1語を下の語群内の(a)から(o)より選び，記号で答えなさい。

Throughout history, people have used technology to change the world. Our technology has been of two kinds, green and gray. Green technology is seeds and plants, horses and cows, milk and cheese, leather and wool. Gray technology is coal and oil and electricity, automobiles and airplanes, telephones and computers. Civilization began with green technology, with agriculture and animal (1), 10,000 years ago. Then, beginning about 3,000 years ago, gray technology became dominant, with mining and machinery. For the last 500 years, gray technology has been (2) ahead and has given birth to the modern world of cities and factories.

The dominance of gray technology is coming to an end. During the last 50 years, we have achieved a fundamental understanding of the processes in living cells. Out of the (3) acquired by modern biology, modern biotechnology is growing. The new green technology will give us the power, using only sunlight as a source of energy, and air and water and soil as (4), to manufacture and recycle chemicals of all kinds. Green technology can be cleaner, more flexible and less wasteful than our existing chemical industries. A great variety of manufactured objects could be grown instead of (5). Green technology could supply human needs with far less damage to the natural environment. I am saying that green technology could do all these good things, not that green technology will do all these good things.

We all know that green technology has a dark side, just as gray technology has a dark side. Gray technology brought us hydrogen* bombs as well as telephones. Green technology brought us anthrax* bombs as well as antibiotics*. The ultimate danger of green technology comes from its power to change the nature of human beings by the (6) of genetic engineering* to human embryos*. If we (7) a free market in human genes, wealthy parents will be able to buy what they consider superior genes for their babies. This could cause a splitting of humanity into hereditary castes*. Within a few generations, the children of rich and poor could become separate (8). Humanity would then have retreated all the way back to a society of masters and slaves. No matter how strongly we believe in the virtues of a free market economy, the free market must not extend to human genes.

I see two tremendous goods coming from biotechnology: first, the decrease of human misery through progress in medicine, and second, the transformation of the global economy through green technology spreading (9) more rightly around the world. The two great evils to be (10) are the use of biological weapons and the fall of human nature by buying

and selling genes. I see no scientific reason why we should not achieve the good and avoid the evil. The (11) to achieving the good are political rather than technical. Unfortunately a large number of people in many countries are strongly opposed to green technology, for reasons having little to do with the real dangers. It is important to treat the opponents with (12), to pay attention to their fears, to go gently into the new world of green technology so that neither human dignity nor religious belief is violated. If we can go gently, we have a good chance of achieving within a hundred years the goals of ecological sustainability* and social justice that green technology brings within our (13).

The great question for our time is how to make sure that the continuing scientific revolution brings (14) to everybody rather than widening the gap between rich and poor. To lift up poor countries, and poor people in rich countries, from poverty, technology is not enough. Technology must be guided and driven by (15) if it is to do more than provide new toys for the rich. Science and religion should work together to abolish the gross inequalities that prevail in the modern world.

— From *The International Herald Tribune*, May 10, 2000, 一部改変.

Notes: hydrogen 水素　anthrax 炭疽菌　antibiotic 抗生物質
genetic engineering 遺伝子工学　human embryo ヒト胚
hereditary caste 遺伝による階級　sustainability 持続可能性

語 群

(a) allow	(b) application	(c) avoided	(d) benefits
(e) breeding	(f) ethics	(g) knowledge	(h) made
(i) materials	(j) obstacles	(k) racing	(l) reach
(m) respect	(n) species	(o) wealth	

Ⅱ 次の英文を読んで下の質問に答えなさい。ただし，問3以外は日本語で解答すること。

I arrived in New York in the summer of 1996. I was eighteen days late for the start of my residency*, and, as a consequence, I had missed intern* orientation day. Whoever set the schedule didn't seem to view this as being particularly a problem, as my very first weekend in town I was assigned to be the night float* intern. Entering Millard Fillmore Hospital that night, I was no different — at least on paper (1) — from the thousands of other interns who had started at hundreds of hospitals throughout the country that June of 1996. I had finished medical school; I had studied for and passed the United States Medical Licensing Exam. The only items that set me apart were that I was not a U.S. citizen and that I had graduated from a foreign medical school.

As a first-year resident* in India, I was the person on first call for patients all day, every night, all 365 days of the year. Early in the morning, I would do rounds* on each patient with my senior resident. These rounds, in keeping with the hierarchical Indian system, could best be described as confrontational: I would be challenged on every diagnosis or decision I had made through the night (2). In many ways, (　　), I was better prepared than most U.S. medical students starting a residency program. I was used to being independent. I had already performed more procedures than most trainees would conduct through the course of their entire residency. I had confidence in my physical examination skills because we'd had to do our best without access to expensive diagnostic tests. But I had never worked a single day in a U.S. hospital.

So I uncertainly walked that night into the physicians lounge in the hospital and called the on-call* intern to let him know that I was here. Ian showed up a few minutes later looking a little troubled. "It's been a busy afternoon." he said. "Here's the sign-out." I didn't know what a sign-out was, but it appeared from the sheet in his hand that it was a list of patients who I would be responsible for through the night. "Cool," I said, acting as if I had done this a hundred times before (3). Ian went quickly through the list of patients, and it was apparent that these were not the diagnoses I was used to dealing with. I confessed to Ian that it was my first night working here. "Well," he said, with sympathy in his voice, "ask the nurses for advice — they've been doing this much longer than you or I have. Good luck."

I used Ian's advice on the first call I received, a call about ventilator* settings on a patient. "What do you suggest?" I asked the nurse who had called me, and then agreed with her recommendations. I felt myself grow a little confident in my answers. Then I got called to the floor to see my first patient. She was in her seventies, had recently had surgery and was complaining of pain at the operation site. "She needs something for pain," said the nurse.

"How about ibuprofen?" I suggested in a decisive tone. "She's allergic* to ibuprofen," replied the nurse. At this point, I decided to give up my newly acquired decisiveness and fell back on Ian's advice. "What do *you* suggest?" "How about Tylenol*?" Tylenol. It was something in the way she said it, how easily the word slipped off her tongue, that implied an obviousness to the suggestion. The trouble was, although the term seemed vaguely familiar, I couldn't remember what Tylenol was.

I fought the voices in my head that were screaming at me to quit pretending that I could do this — be an American doctor — and board the first flight back home. And I came up with an excuse. "I don't have my pocket drug manual; I'm not sure what the dose* is." "It's 650 milligrams, *doctor*," she replied. She said it with a wink, though. I wasn't relieved much a few minutes later when I discovered exactly how much of a mistake it was to ask about "dosing" a Tylenol tablet*. I made it through that night, and none of my patients died, which is the definition of a successful intern, as Ian pointed out to me the next morning.

(4)

— From Alok A. Khorana, "Disorientation," *Health Affairs*, July 2008, 一部改変.

Notes: residency (研修医の)医学実習期間　intern, resident 研修医
night float 夜勤の　do rounds 回診する　on-call 待機中の
ventilator 人口呼吸器　allergic アレルギーの
Tylenol 米国の家庭で一般的に用いられる鎮痛剤　dose 一回の服用量
tablet 錠剤

問 1 下線部(1)について，"on paper" の意味を筆者の経歴を踏まえて説明しなさい。

問 2 下線部(2)を訳しなさい。

問 3 空欄に適切な単語を次の語群から 1 語選びなさい。
however,　moreover,　otherwise,　therefore

問 4 下線部(3)について，筆者がこのように振る舞った理由を説明しなさい。

問 5 下線部(4)について，"with a wink" の理由を具体的に説明しなさい。

Ⅲ 次の英文を読んで下の質問に答えなさい。すべて日本語で解答すること。

Modern life is loud. The sound of an alarm clock awakens the ears to a daily noise of trucks, sirens, televisions, computers, and phones — (1) not to mention the noises generated by refrigerators and air-conditioners. But for the 12 million Americans who suffer from severe tinnitus*, the phantom* tones inside their head are louder than anything else. Often caused by exposure to loud noises, tinnitus is becoming an increasingly common complaint, particularly among soldiers returning from battle fields, users of portable music players, and aging generations reared on rock'n' roll.

Although there is no cure, researchers say they have never had a better understanding of physiological* and psychological mechanisms responsible for tinnitus. As a result, new treatments under investigation show promise in helping patients manage the noise that otherwise makes concentration difficult. The most promising therapies, experts say, are based on discoveries made in the last five years about the brain activity of people with tinnitus. Researchers have discovered that the brain areas responsible for interpreting sound and producing fearful emotions are exceptionally active in people who complain of tinnitus. Indeed, tinnitus can be intense in people with hearing loss and even those whose auditory* nerves have been completely damaged. In the absence of normal auditory stimulation, the brain is like a driver trying to tune in to a radio station that is out of range. (2) It turns up the volume but gets only annoying noise. Richard Salvi at the State University of New York, said the sound could be "neural* noise."

Adam Edwards, a 34-year-old shop-owner of a wheel repair shop in Dallas, said he developed tinnitus four years ago. (3) "I had all the risk factors," he said. "I grew up hunting, I played drums in a band, I went to loud concerts, I have a loud work environment." His tinnitus was so intense and persistent that he needed sedatives* to sleep at night. Mr. Edwards says he has gotten relief from a device developed by an Australian audiologist*. Manufactured by Neuromonics Inc., it looks like a portable music player and delivers sound spreading the full auditory range, digitally based in relaxing music. The sound, adjusted to each patient's hearing ability, masks the tinnitus. Patients wear the device for a minimum of two hours a day for six months. Since completing the treatment plan last year, Mr. Edwards said his tinnitus had "become sort of like Muzak* at a department store — you hear it if you think about it, but otherwise you don't really notice." A small study indicated that the Neuromonics method was 90 percent successful at reducing tinnitus. A larger study is under way to determine its long-term effectiveness. Anne Howell, an audiologist at the University of Texas at Dallas, said the Neuromonics device was a big improvement over older sound

therapies that required wearing something that looked like a hearing aid all the time and took 18 to 24 months.

Other treatments showing promise are intended to halt and possibly reset the faulty brain signals responsible for tinnitus. Using functional M.R.I.* to guide them, neurosurgeons* in Belgium have performed the medical procedure on several patients in the last year and say it has suppressed tinnitus entirely. But the treatment is controversial. "It's a radical option and not proven yet," said Jennifer R. Melcher at Harvard Medical School. The magnetic therapy, similar to treatments used for depression and pain, involves holding a magnet in the shape of a figure eight over the skull. Doctors use functional M.R.I. to aim the magnetic pulses so they reach regions of the brain responsible for interpreting sound. Patients receive a pulse every second for about 20 minutes. "It works for some people but not for others," said Anthony Cacace of Wayne State University. Since tinnitus has so many causes, Dr. Cacace said, the challenge now is to find out which "groups of patients benefit from this treatment."

— From *The New York Times*, April 1, 2008, 一部改変.

Notes: tinnitus 耳鳴り　phantom 幻覚の　physiological 生理学の
auditory 聴覚の　neural 神経の　sedative 鎮静剤
audiologist 聴覚学者　Muzak ミューザク(公共の場等で流される静かなBGM)
M.R.I. 磁気共鳴映像法　neurosurgeon 神経外科医

問 1　下線部(1)を訳しなさい。

問 2　とりわけ耳鳴りを訴える人々の例を3つ挙げなさい。

問 3　最近の研究は，耳鳴りが起こる人々の特徴をどのように説明しているのか答えなさい。

問 4　下線部(2)を訳しなさい。ただし，文中の It の意味も明らかにすること。

問 5　下線部(3)が意味する内容を記しなさい。

問 6　Adam Edwards 氏が使用した治療器具が優れていると考えられる理由を2つ挙げなさい。

問 7　magnetic therapy について，専門家が指摘する問題点を2点記しなさい。

Ⅳ　東日本大震災を契機として学生のボランティア活動が注目されています。あなたが一般にボランティア活動に参加するとすれば，それはあなたにとって，どのような意味があると考えますか。あなたの考えを 80～90 語の英文で述べなさい。なお，文末に使用した語数を記すこと。