

平成28年度入学試験問題

英 語

注 意

- 1 問題冊子は1冊（9ページ）、解答用紙は4枚です。
- 2 試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁及び解答用紙の汚れ等により解答できない場合は、手を高く挙げて監督者に知らせなさい。
- 3 すべての解答用紙に、それぞれ2箇所受験番号を記入しなさい。
- 4 解答は、すべて解答用紙の指定されたところに書きなさい。
- 5 試験終了後、問題冊子は必ず持ち帰りなさい。

問 1 次の英文を読んで、下の設問に答えなさい。

The seawater by Tokyo's Kasai Rinkai Park is only slightly cooler than body temperature, and its beach contains a mix of tiny gravel and seashell fragments instead of fine white sand.

The beach is (1) far from a perfect summer holiday spot. The skyline of the metropolis is visible in the distance, and no palm trees are in sight. But for Yuzo Sekiguchi, opening the small strip on Tokyo Bay for swimmers was a dream five decades in the making.

“Beginning this year one can enjoy and swim at the beach without having to leave Tokyo,” Sekiguchi, 65, who played a key role in opening the Kasai Rinkai Park beach, said in a recent interview with *The Japan Times*. “Kids in Tokyo say they visit the ocean during the summer, but in Hawaii or their grandmother’s hometown outside Tokyo. Now, a beach can be found right here,” he said.

Tokyo’s seashore was originally a great leisure spot for its residents. Children would swim in the bay and dig for clams in mud flats in early summer. During the winter, the bay provided rich seaweed. Sekiguchi said he would often go fishing with friends and capture sea bass during his childhood in the city. But such activities had been lost for half a century due to the nation’s high-speed industrialization that saw water quality get worse. Artificial island and land-extension projects also reshaped Tokyo’s waterfront, forcing beaches in Shinagawa and Omori to shut down in the 1950s. Eventually, all beaches in the capital were closed by 1962. “As the country grew economically, I felt that we were losing something very important,” Sekiguchi, who works as an architect, said of that time.

What drove the Tokyo native to take action in reviving the beaches was a trip to western Asia when he was 30. “I traveled through India, Pakistan, Afghanistan and other parts of the region. The eyes of the people I met shined bright, especially the children,” he said, recalling how they’d gather firewood at night and share it

with travelers.

In Japan, most of the children he knew were attending cram schools. They never interacted with nature and instead were focused on getting into elite colleges and obtaining decent jobs. “I thought (2) something was wrong, and that adults had the (①) to change such an environment for children,” Sekiguchi said.

Upon returning to Tokyo he launched a nonprofit organization in 1977 that focused on reviving the city’s nature and environment. Its core project was to restore the beaches in Tokyo Bay. Improving the seawater quality along Tokyo’s shores proved to be a challenge — but not the biggest one, according to Sekiguchi.

“The local government was extremely reluctant to take (①) for what we were aiming to do. The administration was slow in getting anything done,” Sekiguchi said. “I couldn’t tell what bureaucrats and politicians existed for. It appeared as if they were there to bind the public to their rules,” he said, as his NPO sought ways to reopen the beach.

The opening of Kasai Rinkai Park beach this year is still conditional, with local authorities not taking (①). Swimming is allowed only during weekends between July and August, and visitors are only allowed to enter the water waist deep. Diving is prohibited. According to the park website, the beach will be closed in the event of rain, poor water clarity, high waves, strong winds, or when lightning warnings are issued. In addition, the metro government also stressed that the beach opening does not fall under its (①) but rather that of the organizers — Sekiguchi’s NPO.

“It took a lot of effort to reach this point. We had to study the water quality repeatedly and provide data to convince them it was safe,” Sekiguchi said. “It was extremely difficult to get the local government to act. But I think we managed to do that, at least a bit.”

Hints for improving seawater, meanwhile, came from Chesapeake Bay on the U.S. East Coast. “I read about a project in Chesapeake Bay where locals used oysters to improve water quality,” Sekiguchi noted. He also added that one single

oyster is known to clean 200 to 400 liters of water every day. His group tested the oyster method first in a river in Edogawa Ward, Tokyo, before applying it to Kasai Rinkai Park.

For decades, seawater by the park was considered unsafe to swim in. But it improved quickly and the area's water quality today is at the same level as Inage Beach in Chiba Prefecture. After installing protective offshore fences to prevent rays from entering the swimming area, the beach was ready for visitors.

When Sekiguchi and his group organized a two-day trial beach opening, it gathered more than 3,000 people. This year, the beach is welcoming people by the thousands every day. "This is just the beginning," Sekiguchi said of his broader project to revive Tokyo's beaches, explaining that measures taken at Kasai Rinkai Park will be applied to other shores in the city.

(注) sea bass スズキ ray エイ
cram school 塾 bureaucrats 官僚

- (1) 下線部 (1) について、なぜそのように述べられているのか、日本語で説明しなさい。
- (2) なぜ下線部 (2) のように思ったのか、具体的に日本語で説明しなさい。
- (3) 本文中では、水質改善に何が用いられ、その理由は何であると述べられているのか、日本語で説明しなさい。
- (4) 空所 (①) にはすべて同じ英単語が入るが、その語を書きなさい。
- (5) 本文の見出しとして最も適切なものを、以下の5つの中から選び、その記号を書きなさい。

ア Conditional permission to dive in Tokyo Bay

イ An NPO helps the local government

ウ Kasai Rinkai Park beach as a popular fishing spot

エ Tokyo beach reopens after five decades

オ Environmental pollution in Tokyo Bay

問 2 脳卒中を経験した科学者による次の手記を読んで、下の設問に答えなさい。

Recovery, however you define it, is not something you do alone, and my recovery was completely influenced by everyone around me. I desperately needed people to treat me as though I would recover completely. Regardless of whether it would take three months, two years, 20 years, or a lifetime, I needed people to have faith in my continued ability to learn, heal, and grow. The brain is a marvelously dynamic and ever-changing organ. My brain was thrilled with new stimulation, and when balanced with an adequate amount of sleep, it was capable of miraculous healing.

I have heard doctors say, "If you don't have your abilities back by six months after your stroke, then you won't get them back!" Believe me, this is not true. I noticed significant improvement in my brain's ability to learn and function for eight full years post-stroke, at which point I decided my mind and body were totally recovered. Scientists are well aware that the brain has tremendous ability to change its connections based upon its incoming stimulation. (1) This special characteristic of the brain is the basis for its ability to recover lost functions.

I think of the brain as a playground filled with lots of little children. All of these children are eager to please you and make you happy. (What? You think I'm confusing children with puppies?) You look at the playground and note a group of kids playing kickball, another group acting like monkeys on the jungle gym, and another group hanging out by the sand box. Each of these groups of children is doing different yet similar things, very much like the different sets of cells in the brain. If you remove the jungle gym, then those kids will either go away or they will join other kids and start doing whatever else is available to be done. (2) The same is true for brain cells. If you wipe out a brain cell's genetically programmed function, then those cells will either die from lack of stimulation or they will find something new to do. For example, in the case of vision, if you put a patch over one eye, blocking visual stimulation coming into the cells of the visual cortex, then those cells will reach out to the adjacent cells to see if they can contribute toward a new function. I needed the people around me to believe in me, and my brain's ability to grow, learn, and recover.

When it comes to the physical healing of cells, I cannot stress enough the value

問 4 次の問いに英語で答えなさい。

What do you think the future of planet Earth will be? State your idea by giving reasons in 10-12 lines.

of getting plenty of sleep. I truly believe that the brain is the ultimate authority on what it needs to heal itself. My brain needed sleep to be protected.

Over the course of several years, if I didn't respect my brain's need for sleep, my sensory systems experienced agonizing pain and I became psychologically and physically exhausted. For my recovery, it was critical that I honor the healing power of sleep. I remain a very loud advocate for the benefits of sleep, sleep, sleep, and more sleep mixed with periods of learning and cognitive challenge.

From the beginning, it was vitally important that my caregivers permit me the freedom to let go of my past accomplishments so I could identify new areas of interest. I needed people to love me – not for the person I had been, but for who I might now become. When my old familiar left hemisphere released its control over my more artistic and musically creative right hemisphere, everything shifted, and I needed my family, friends, and colleagues to support my efforts at re-inventing myself. At the essence of my soul, I was the same spirit they loved. But because of the trauma, my brain circuitry was different now, and with that came a shifted perception of the world. Although I looked the same and would eventually walk and talk the same as I did before the stroke, my brain wiring was different now, as were many of my interests, likes, and dislikes.

I desperately needed people to accept me as (3) the person I was at that moment, and permit me the freedom to evolve as a (①) hemisphere dominant personality. I needed those around me to be encouraging. I needed to know that I still had value. I needed to have dreams to work toward.

(注) genetically 遺伝子上
sensory systems 感覚神経系
hemisphere 脳半球

visual cortex 視覚皮質
cognitive 認知的な
circuitry 回路

- (1) 下線部 (1) とはどのようなものか、本文に即して日本語で説明しなさい。
- (2) 下線部 (2) は、脳の性質を何にたとえていますか。また、そのたとえの内容を本文に即して日本語で説明しなさい。
- (3) 下線部 (3) が示す内容を、本文に即して日本語で説明しなさい。
- (4) 空所 (①) に入る適切な英単語を書きなさい。

問 3 次の文章を読んで、下線部 (1), (2), (3), (4) を英語にしなさい。

人間が手で物を作らなくなってから、近代における人間の疎外感は強まったのではないかと思う。人間が人間であることの証を自ら捨て去ったところに、近代の悲劇があるのだろう。

(1) 簡単に言ってしまえば、自分の手で物を作らないから、皆、人生がつまらなくなってしまうのだ。その点、私は常に、物作りの現場にいた。しかも大手企業と決定的に違い、本当の意味で手作りの物作りをしていたという点だ。文字通り、「物を作ることが人生だ」を地で行く毎日であった。

大手企業の研究員は、必要な物は注文してそろえればいい。お金のまかせて、あれが必要、これも必要とやっていけばいい。これがダメならあれで試そうという具合だ。一見、効率的に仕事が進み、完成に至る道のりも早そうなのだが、実は、これでは何ら創造的な結果が得られないのだ。

ルーティーンの仕事のスムーズにこなしても、それは、近代の合理主義と同じで、大量生産には向いていても、物作りそのものの持つ創造的な喜びには欠けるのである。

ところで、物作りの基本は、想像力にあると思う。ああなるかもしれない、こうなるかもしれないという想像力を働かせて、試行錯誤をしながら物を作り上げていく。(2) けれども、実際には当初の想像とは違って、うまくいかない部分が多く出てくる。それらを自分の経験や知恵で克服していこうとする。(3) この困難を乗り越えたところに創造的な物が生まれてくるのだ。

(4) 資金も豊富で、すべてが苦もなく手に入るところには、知恵や工夫の入る余地がない。だから、創造的で世界を驚かせるような物の開発はできないと思う。手を動かすことの中から新しい発想は生まれてくるのである。