

# 入学試験問題(1次)

## 外国語

令和5年1月23日

13時10分—14時10分

### 注意事項

- 1 試験開始の合図があるまで、この問題冊子を開かないこと。
- 2 この問題冊子は表紙・白紙を除き12ページである。落丁、乱丁、印刷不鮮明の箇所等があった場合は申し出ること。
- 3 解答には必ず黒鉛筆(またはシャープペンシル)を使用すること。
- 4 解答は、各設問ごとに一つだけ選び、解答用紙の所定の解答欄の該当する記号を塗りつぶすこと。
- 5 解答を訂正する場合は、消しゴムできれいに消すこと。
- 6 監督員の指示に従って、問題冊子の表紙の指定欄に受験番号を記入し、解答用紙の指定欄に受験番号、受験番号のマーク、氏名を記入すること。
- 7 この問題冊子の余白は、草稿用に使用してよい。ただし、切り離してはならない。
- 8 解答用紙およびこの問題冊子は、持ち帰ってはならない。

受験番号				
------	--	--	--	--

上の枠内に受験番号を記入しなさい。





I . 次の英文を読み、1～8の問題に最も適した答えを選べ。

Whatever your query, desire, or purpose, the Internet provides, and all of the complexity of everything from videos to blogs are contained within infinitely complex strings of bits. The words you are reading from these bits are a point of entry into an airy realm called the “Cloud.” But just as the seemingly puffy and formless clouds above us are in fact made of water, the Cloud of the digital is also relentlessly material.

To get at the matter of the “formless” Cloud we must unravel coils of complex cables, cellular towers, air conditioners, power distribution units, transformers, water pipes, computer servers, and more. Nowhere is this dilemma more visible than in the walls of the infrastructures where the content of the Cloud lives: the (1) \_\_\_\_\_-libraries where data is stored and computational power is accumulated to keep our Cloud applications functioning. Molecular frictions of digital industry create a (2) waste product of computation, and it must be relentlessly controlled to keep the engine of the digital world in a constant state, 24 hours a day everyday. To suppress this thermodynamic threat, computer room air conditioners (CRACs) are essential for data centers.

In North America, most data centers draw power from “dirty” electricity grids, especially in Virginia’s “data center alley,” the site of 70 percent of the world’s Internet traffic in 2019. To cool, the Cloud of the Information Revolution burns carbon, what Jeffrey Moro calls an (3) “elemental irony”. In most data centers today, cooling accounts for greater than 40 percent of electricity usage. As a result, the Cloud now has a greater carbon footprint than the airline industry. A single data center can consume the equivalent electricity of 50,000 homes. At 200 terawatt hours (TWh) annually, data centers collectively consume more energy than some nation-states. Today, the electricity (4 a) by data centers (4 b) for 0.3 percent of overall carbon emissions, and if we (4 c) our accounting to include network devices like laptops, smartphones, and tablets, the total (4 d) to 2 percent of global carbon emissions.

Why so much energy? In some cases, only 6 to 12 percent of energy consumed is devoted to active computational processes. The remainder is allocated to cooling and maintaining chains upon chains of redundant \*fail-safes to prevent costly downtime. While some of the most advanced “hyperscale” data centers, like those maintained by Google, Facebook, and Amazon, have promised to transition their sites to carbon-neutral via carbon offsetting and investment in renewable energy infrastructures, many smaller-scale data centers lack the resources and capital to pursue similar initiatives. In addition, smaller-scale data centers for universities and companies have often been set up within older buildings that are not optimized for ever-changing power, cooling, and data storage capacity needs.

In this way, the Cloud is not only material, but is also an ecological force. We must care about the materials and energy — <sup>(6)</sup>\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ — that support our digital lives as it continues to expand. Its environmental impact increases, even as the engineers, technicians, and executives behind its infrastructures strive to balance <sup>(7)</sup>\_\_\_\_\_ability with \_\_\_\_\_ability.

The Cloud is both cultural and technological. The ecological dynamics we find ourselves in are not entirely a consequence of design limits, but of human practices and choices — among individuals, communities, corporations, and governments — combined with a lack of will and imagination to bring about a sustainable Cloud. Like any aspect of culture, the Cloud’s development and its ecological impacts are not predetermined and are <sup>(8)</sup>mutable.

\*fail-safes 安全装置

[Source: Monserrate, Steven Gonzalez. The Cloud Is Material: On the Environmental Impacts of Computation and Data Storage. *MIT Case Studies in Social and Ethical Responsibilities of Computing*, Winter 2022. Retrieved from: <https://doi.org/10.21428/2c646de5.031d4553>]

1. What would be the most appropriate first word used in the compound noun (1) for this facility by the author?
- A. tank
  - B. market
  - C. office
  - D. burner
  - E. factory
2. In the article, the (2) for computing is about
- A. humidity.
  - B. temperature.
  - C. chemicals.
  - D. noise.
  - E. radiation.
3. What comparison explains the (3) of the Cloud?
- A. the “American Revolution” for independence from the British king enabled rich businessmen to have social domination
  - B. the “Industrial Revolution” for higher productivity reduced life span of working class people due to poor living conditions
  - C. the “Agricultural Revolution” for greater farming efficiency required increased reliance on chemicals and other minerals
  - D. the “Sexual Revolution” for gender equality resulted in women having to work twice as hard at outside jobs plus at home
4. Put the verbs in (4 a) to (4 d) in correct order.
- A. shifted / utilizes / account / extends
  - B. extended / shifts / utilize / accounts
  - C. accounted / extends / shift / utilizes
  - D. utilized / accounts / extend / shifts

5. What is the present situation for data centers?
- A. Large energy bills protect data center business profits from customer loss.
  - B. High energy costs impact profits requiring hyperscale data centers to optimize.
  - C. Energy-inefficient smaller data centers use larger ones for data processing.
  - D. Data center efficiency depends on how much energy is from renewables.
6. Based on the text, what word would not fit in the list “<sup>(6)</sup>\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_”?
- A. water
  - B. heat
  - C. metal
  - D. glass
  - E. none of the above
7. Which word beginnings for (7) best fit the author’s intent?
- A. st / mut
  - B. vulner / support
  - C. prob / renew
  - D. profit / sustain
  - E. imagin / realiz
8. According to the last paragraph, (8) means the Cloud is able to be
- A. silenced.
  - B. changed.
  - C. shared.
  - D. believed.
  - E. measured.

II. 次の英文を読み、9～17の問題に最も適した答えを選べ。

Between 1990 and 2013, the foreign-born share of the U.S. population grew from 7.9 percent to 13.1 percent and the number of unauthorized immigrants more than tripled from 3.5 million to 11.2 million. During the same period, data indicate that the violent crime rate declined 48 percent — which included falling rates of aggravated assault, robbery, rape, and murder. Likewise, the property crime rate fell 41 percent, including declining rates of motor vehicle theft, robbery, and home invasion. In addition, immigrants are less likely than the native-born to be behind bars. According to an original analysis of data from the 2010 American Community Survey (ACS), roughly 1.6 percent of immigrant males age 18–39 are in this situation, compared to 3.3 percent of the native-born. This difference has existed for decades, as evidenced by data from 1980–2010. According to each census, the incarceration rates of the native-born were anywhere from two to five times higher than that of immigrants.

Despite the abundance of evidence that immigration is not linked to higher crime rates, and that immigrants are less likely to be criminals than the native-born, many U.S. policymakers cannot resist their fears and prejudices about what they imagine immigrants to be. As a result, far too many immigration policies are drafted on the basis of \_\_\_\_\_. These laws are criminalizing an ever-broadening portion of the immigrant population by applying a double standard when it comes to the consequences of criminal behavior. Immigrants who experience even the slightest contact with the criminal justice system, such as being (13 a) of a minor offense, can find themselves subject to detention for a/an (13 b) period, after which they are (13 c) from the country and (13 d) from returning. This reality is at the core of what law professor Juliet Stumpf calls “cimmigration” — the “criminalization of immigration law.” Stumpf argues that “as criminal sanctions for immigration-related conduct and criminal grounds for removal from the United



States continue to expand, (14),” using increasingly strict definitions and standards of “criminality” that do not apply to U.S. citizens.

In short, to quote sociologist Robert J. Sampson, “cities of concentrated immigration are some of the safest places around.” Immigrants as a group tend to be highly motivated, goal-driven individuals who have little to gain by breaking the law. As law professor and public-policy expert Michael Tonry puts it: “First-generation economic immigrants are (15) risk-takers who leave their homes, families, and languages to move to a new country to improve their and their children’s lives. They have good reasons to work hard, defer pleasures, and stay out of trouble.”

As renowned psychologist Abraham H. Maslow wrote many years ago, “it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.”<sup>(17)</sup> The weapon that is the U.S. immigration-enforcement apparatus is being used against the immigrant community, regardless of their ties to this country, regardless of whether or not they are actually criminals. It is long past time for U.S. immigration policies to accurately reflect the diversity and complexity of immigration to this country, based not on a reactive politics of fear and myth, but on sound analysis and empirical evidence.

[Source: Ewing, Walter, et al. Special Report: The Criminalization of Immigration in the United States. America Immigration Council, July 2015. Retrieved from: <https://www.americanimmigrationcouncil.org/research/criminalization-immigration-united-states>]

9. What does (9) mean?

- A. to be criminalized
- B. to be arrested
- C. to be victimized
- D. to be imprisoned
- E. to be hospitalized

10. How many times was there a census between 1980–2010?
- A. 2
  - B. 3
  - C. 4
  - D. 5
11. Which phrase would not fit the last part of the sentence “ \_\_\_\_\_ (11) \_\_\_\_\_ ”?
- A. experience rather than model
  - B. stereotypes rather than substance
  - C. bias rather than facts
  - D. emotion rather than analysis
  - E. image rather than data
12. What could we conclude from the first two paragraphs?
- A. Crime rates decline with strict immigration policies.
  - B. Strict crime policies reduce immigration rates.
  - C. Strict immigration policies do not effectively reduce crime.
  - D. Ineffective crime policies do not result in higher immigration.
13. Put the verbs in (13 a) to (13 d) in correct order.
- A. prohibited / expelled / undermined / convicted
  - B. expelled / prohibited / convicted / undetermined
  - C. convicted / undetermined / expelled / prohibited
  - D. undetermined / convicted / prohibited / expelled
14. What is the next part of the sentence for (14) ?
- A. immigrants are targeted by criminals
  - B. immigrants are expected to be criminals
  - C. criminals are expelled from the country
  - D. criminals are considered as immigrants

15. Which word would fit (15) ?
- A. self-educated
  - B. self-selected
  - C. self-affected
  - D. self-trained
16. According to the text, who else would be (15) ?
- A. professional team members
  - B. South Korean military
  - C. health research volunteers
  - D. lottery money winners
  - E. displaced war refugees
17. What does the author mean by “ (17) ”?
- A. Policymakers need more precise law-enforcement methods to understand what portion of the foreign-born population are criminals.
  - B. Policymakers who are checking the law-enforcement data can predict in the future what kinds of immigrants will be arrested for criminal activity.
  - C. Policymakers who look at the foreign-born population of the United States through a law-enforcement lens are seeing things that are not really there.
  - D. Policymakers who consider law-enforcement the most important tool for social safety will increase arrests of both foreign- and non-foreign-born individuals.

Ⅲ. 次の英文を読み、18～25の問題に最も適した答えを選べ。

Beginning with the Meiji government, bodies of those executed or those who died (18 a) illness in prisons were sent to medical schools (18 b) Japan. At Kyoto Imperial University, human bodies were plentiful for \*dissection, and 413 were dissected at this school in 1913 alone. (18 c) the Meiji Restoration, however, although human dissection was occasionally allowed in Japan (18 d) the purpose of confirming anatomy as described by Chinese medicine, it was generally considered contrary (18 e) traditional social morals because it damaged the body given by one's parents.

Shintoism associated those handling the dead with impurity. This way of thinking was in contrast to that of European perspectives held during the same period; European anatomists believed that the mysteries of the universe could only be answered by studying the minimized version of the universe, the human body. These European anatomists passionately insisted that studying human bodies was essential under Christian doctrine, since it allowed one to understand the nature of God as it is stated in the Bible, "God made man in his own image". During this same period, many medical practitioners in Japan denounced the credibility and the usefulness of dead bodies and skeletons, which necessitated <sup>(21)</sup> the creation of wooden skeletons.

In 1792, the first wooden skeleton was crafted at the request of the Hiroshima physician Hoshino Ryôetsu. Hoshino had studied the jaw of a skull that he found, and created a method for fixing this joint when dislocated. After successfully using this technique on a patient, he was convinced that a model of the human skeleton would be great use to physicians. After repeated requests to the local government, he was finally given two corpses, which he and other physicians dissected. They collected the bones and constructed a wooden model based on them.

An important contribution to Japan's introduction to modern Western anatomical study was the translation of the Dutch text *Ontleekundige Tafelen* by

the physician Sugita Genpaku in 1774. Called the *Kaitai Shinsho*, it was the first European book published in Japan and became a nidus for incubating interest in Western medicine and science. Eventually, it was also printed in Chinese, and other translation projects grew from its success, including the three-volume *Ihan Teikô* in 1805 by Sugita's student, Udagawa Genshin.

Most anatomists in the early 20th century had been trained in Germany, and the overwhelming majority of anatomical texts and journals were in German. One renowned anatomist was Adachi Buntarô (1865–1945) who was a central figure in revealing the anatomy of the blood circulatory system. His German-language *Das Arteriensystem der Japaner*, published in 1928, is still regarded as a masterpiece of blood circulatory anatomy. This publication was the result of over 30 years of research on hundreds of human bodies. Interestingly, Adachi wanted to present more than a catalog of blood circulatory anatomical variation; he wanted to demonstrate “racial” anatomy.

Anatomy at Kyoto Imperial University represented 15.6% of the medical student's curriculum in 1916, with gross anatomy extending through the first 2 years of study. Although the human bodies were primarily from prisons, *kentai* (voluntary body donation) became a more common source for medical education in later times. The Japanese Association of Anatomists was established in 1893. In 1936, this group published *Nihon Kaibôgaku Bunkenshû* which contained a complete bibliography of Japanese anatomical writings published between 1686 and 1933, and it referenced over 10,000 sources. Today, Japan has its own anatomical identity, is home to world-renowned anatomists who have made major contributions to this field.

\*dissection 切開

[Source: Tubbs, R. Shane, et al. The evolution of the study of anatomy in Japan. *Clinical Anatomy* 22, 425–435. Retrieved from: <https://onlinelibrary.wiley.com/doi/epdf/10.1002/ca.20781>]

18. Put the prepositions in (18 a) to (18 e) in correct order.
- A. to / for / until / across / of
  - B. for / across / of / until / to
  - C. across / of / until / to / for
  - D. of / across / until / for / to
  - E. until / of / to / across / for
19. According to the first paragraph, what is an important way to show respect in society?
- A. keep a promise
  - B. return a favor
  - C. protect a present
  - D. repay a loan
  - E. remember a duty
20. According to the second paragraph,
- A. the body's physical appearance was related differently to the image of gods in Japan and Europe.
  - B. science strongly differed from traditional religion in Europe.
  - C. religious explanation was used differently by Japanese and European doctors.
  - D. for different religious reasons in Japan, only scientists could touch dead bodies.
21. What does (21) mean?
- A. dismissed
  - B. displayed
  - C. demonstrated
  - D. decoded
  - E. disappointed

22. According to Hoshino's experience with the skull, a wooden skeleton may also help doctors to
- A. clean bones to make wooden copies.
  - B. treat broken teeth in the jaw.
  - C. cut a dead body without damaging organs.
  - D. move the elbow to restore function.
23. What does (23) mean?
- A. trap
  - B. hole
  - C. leaf
  - D. hill
  - E. nest
24. What is suggested by the term (24) ?
- A. Politics and medicine are separated.
  - B. Ethnic groups have unique biology.
  - C. Human organs are universal.
  - D. Medical research is a race.
  - E. Homo sapiens have a common ancestor.
25. Which statement summarizes this essay?
- A. Japan's approach to anatomical study has always been independently directed by government sources.
  - B. Traditional Chinese medicine maintains a strong influence in Japanese anatomical research.
  - C. Prisoners donating their dead bodies for dissection understood they were supporting medicine in Japan and Europe.
  - D. Japanese thoughts on human anatomy were influenced by China, followed by Holland, and then Germany.



















