

2024 年度日本政府(文部科学省)奨学金留学生選考試験

QUALIFYING EXAMINATION FOR APPLICANTS FOR THE JAPANESE
GOVERNMENT (MONBUKAGAKUSHŌ) SCHOLARSHIP 2024

学科試験 問題

EXAMINATION QUESTIONS

(研究留学生 (文科系専攻))

RESEARCH STUDENTS

英 語 (A)

ENGLISH (A)

注意 ☆試験時間は **60 分**。

PLEASE NOTE: THE TEST PERIOD IS **60 MINUTES**.

ENGLISH (A)

Nationality		No.		Marks	
Name	(Please print your full name, underlining your family name)				

I Choose the word or phrase that best completes each sentence.

- 1 () the progress scientists have made to understand sunbathing animals, there's still a lot to untangle.
(A) Despite (B) Unless (C) Rather than (D) Because of
- 2 Ashurbanipal was proud of his () to read and write, and portrayed himself bearing both weapons and a stylus.
(A) powerfulness (B) possibility (C) potential (D) ability
- 3 We'd be buried knee-deep in litter () we didn't have soil microorganisms.
(A) since (B) if (C) because (D) when
- 4 Any child can be spoiled whether they are () or not.
(A) an alone child (B) a lonesome child (C) an only child (D) a solo child
- 5 At the start of the 20th century, more than 100,000 tigers roamed the planet, but loss of habitat () more than 90 percent of their range, according to Panthera.
(A) perished (B) cleaned up (C) faded away (D) wiped out
- 6 The earthquake—and fears of another one like it—are the constant () of conversation in the city.
(A) concept (B) question (C) topic (D) message
- 7 On Friday, due to a combination of daily traffic and weekend travellers, () traffic is expected from early morning until late evening.
(A) rich (B) big (C) heavy (D) strong
- 8 The unearthing of King Tut's lost tomb is () one of the greatest—if not the greatest—archaeological discoveries in history.
(A) questionably (B) doubtfully (C) arguably (D) faithfully

- 9 I think we should () it a day and go home.
(A) claim (B) say (C) name (D) call
- 10 Will self-driving cars on our roads ever be a ()?
(A) truthfulness (B) fiction (C) reality (D) fantasy

II Choose the word or phrase that best completes each sentence.

- 1 My father wanted () a teacher like himself.
(A) that I be (B) me to be (C) that I am (D) me to am
- 2 All applications are due () October 17, 2022.
(A) up to (B) until (C) by (D) at
- 3 The key to choosing good conversation topics for teens is to stop and consider ().
(A) they're interested in really what (B) they're really interested in what
(C) what they're really interested in (D) they're interested in what really
- 4 She () that the contents of the box were a collection of letters.
(A) said me (B) told me (C) told to me (D) to me said
- 5 I've been here () seven months.
(A) on (B) for (C) between (D) since
- 6 Can you give me () information on what to expect when I come to campus?
(A) a few (B) an (C) a (D) some
- 7 Education today is () than ever.
(A) expensiver (B) more expensive (C) too expensive (D) expensive
- 8 She () down in bed and read a book.
(A) laid (B) lie (C) lied (D) lay
- 9 Viking women were power knitters () textiles provided vital trade across Europe, researchers say.
(A) whose (B) who (C) which (D) whom
- 10 The research () in a paper that will be published by the journal Astronomy & Astrophysics and is already available to read online.
(A) describes (B) is described (C) will describe (D) has described

III *In the following paragraphs, one of the underlined parts is grammatically incorrect. Choose the incorrect part.*

1. (A) Ohio State women’s hockey head coach Nadine Muzerall has welcomed familiar faces to the Buckeye bench ahead of the 2022-23 season with the promotion of Kelsey Cline to assistant coach and the hiring of Lauren Spring as director of operations. (B) “It is a privilege to be afforded this opportunity and see it come full circle,” Spring said. (C) “First as a student-athlete and now a staff with the ability to contribute back to a program that offered me countless positive experiences which have allowed me to get to where I am today. (D) It is a true testament to Coach Muzerall and the positive impacts she has on her players, the people within the program and all that interact with her at the university.”
2. (A) Employers ask “Tell me about a time you did a mistake” to see how you handle challenging situations. (B) Admitting your mistakes shows a sense of integrity and also indicates that you understand that you might have some failures throughout your career. (C) The key to answering this interview question is showing employers that you learned from your mistake. (D) This common interview question shows employers your potential weaknesses and how you might overcome them.
3. (A) You may have heard something like, “93% of communication is nonverbal!” However, this number is wrong and outdated. (B) Famous silent characters like Charles Chaplin, Silent Bob, Teller from Penn & Teller, Wall-E, and Courage the Cowardly Dog can portray the entire human spectrum of emotion—and tell compelling stories from their nonverbals—without having to use words at all. (C) So while there must not be a real percentage, we do know that nonverbal behaviors tell a much more comprehensive story than words do. (D) Now, most people can carefully choose their words, but they can’t choose their body language (unless they’re a politician, that is).
4. (A) TikTok is serving up misinformation to users searching for news about politics, climate change, COVID-19, the war in Ukraine and more, according to a report released on Wednesday. (B) Toxicity and false claims are a “significant threat” at TikTok, which is becoming a go-to online venue for young people to search for information, according to a study by NewsGuard, a media watchdog. (C) NewsGuard describes itself a “journalism and technology tool” that rates the credibility of websites and online information. (D) “Even when TikTok’s search results yielded little to no misinformation, the results were often more polarizing than Google’s,” NewsGuard said of its findings.
5. (A) Yes, having a big name in science will help get your paper published, an unusually robust new study confirms. (B) Just 10% of reviewers of a test paper recommended acceptance when the sole listed author was obscure—but 59% endorsed the same manuscript when it carried the name of a Nobel laureate. (C) The study, which involved recruiting hundreds of researchers to review an economics manuscript, is “incredible,” says Mario Malički, a postdoctoral researcher at Stanford University and editor-in-chief of *Research Integrity and Peer Review*, who was not involved in the research. (D) “It is the large randomized controlled trial we have seen on publication bias.”

6. (A) “I was a journalist and author with a young family in London, where it is hard to make ends meet in those professions so I thought it was time for a new adventure,” (B) Parton says over a beer in one of the apartments guests can now rent in the palace. (C) “I decided to leave London and move to Poland where things are cheaper.” (D) After selling his London home at first there house hunt was just for a large family home but Jim noticed there were a number of big properties on sale for little money, and this rekindled a dormant desire to own something grand.
7. (A) Job rotation is a strategy to move employees through different assignments in the order to expose them to various verticals in the company. (B) This is largely done as part of the company’s succession plan to develop an internal pool of talents who can take over when an employee in a senior role retires or leaves the company. (C) The strategy is commonly implemented in the banking industry, where an employee is rotated through the relationship management, risk analysis and operations departments. (D) The idea is for the employee to gain a holistic understanding of all the interconnected jobs required to provide banking services.
8. (A) A new baby island emerged in the southwest Pacific Ocean, where underwater volcanoes are plentiful. (B) One of these submerged volcanoes awoke on September 10, spewing lava, steam, and ash, according to a statement from the NASA Earth Observatory. (C) Just eleven hours after the volcano began to erupt, a new island had emerged above the water’s surface, says NASA, which captured images of the nascent island with satellites. (D) The newborn island grew quick in size, according to NASA.
9. (A) Close to the pristine beaches of the Adriatic coast lie the ruins of the ancient Cupra temple, where a new discovery has come to light. (B) Last week, archaeologists recovered parts of the 2,000-year-old temple’s frescoed walls and ceiling, painted in blue, yellow, red, black and green hues and decorated with flowery garlands, images of candelabra and tiny palms. (C) Finding ancient Roman temples with the interiors “still covered in paintings” is “extremely rare,” said archaeologist Marco Giglio, the site’s research project coordinator and a professor at the University of Naples L’Orientale. (D) “It’s the first time that the ruins of a shrine painted with such a wide palette of colors in an incredibly well-preserved state -- and with such rich, elaborate decorations -- has been unearthed,” he claimed in a phone interview.
10. (A) “I dyed my hair blonde, I got blue contact lenses and I changed myself physically to fit into what was portrayed as beautiful,” said Mutyala, the daughter of Indian immigrants, in a phone interview. (B) “It took a lot of time to feel confident in my own skin. (C) So, now that we’re finally in a place where embracing your roots and culture is considered ‘cool,’ it’s very surreal.” Today, Mutyala is at the helm of her own beauty brand, Live Tinted. (D) And her mission is to offer customers something she never has as a teen in Texas: products that put people with deeper skin tones, like hers, at the fore.

IV Choose the most suitable word or string of words from the list to fill each of the numbered blanks in the passage below.

When robots appear to (1) people and display human-like emotions, people may perceive them as capable of “thinking,” or acting on their own beliefs and desires rather than their programs, according to research published by the American Psychological Association.

“The relationship (2) anthropomorphic shape, human-like behavior and the tendency to attribute independent thought and intentional behavior to robots is yet to be understood,” said study author Agnieszka Wykowska, PhD, a principal investigator at the Italian Institute of Technology. “As artificial intelligence increasingly becomes a (3) of our lives, it is important to understand how interacting with a robot that displays human-like behaviors might induce higher likelihood of attribution of intentional agency to the robot.”

The research (4) in the journal *Technology, Mind, and Behavior*.

Across three experiments involving 119 participants, researchers examined how individuals would perceive a human-like robot, the iCub, after socializing with it and watching videos together. Before and after interacting with the robot, participants (5) a questionnaire that showed them pictures of the robot in (6) situations and asked them to choose whether the robot’s motivation in each situation was mechanical or intentional. (7), participants viewed three photos depicting the robot selecting a tool and then chose whether the robot “grasped the closest object” or “was fascinated by tool use.”

In the first two experiments, the researchers remotely controlled iCub’s actions so it would behave gregariously, greeting participants, introducing itself and asking for the participants’ names. Cameras in the robot’s eyes were also able to recognize participants’ faces and maintain eye contact. The participants then watched three short documentary videos with the robot, which was programmed to respond to the videos with sounds and facial expressions of sadness, awe or happiness.

In the third experiment, the researchers programmed iCub to behave more like a machine while it watched videos with the participants. The cameras in the robot’s eyes were deactivated so it (8) not maintain eye contact and it only spoke recorded sentences to the participants about the calibration process it was undergoing. All emotional reactions to the videos were replaced (9) a “beep” and repetitive movements of its torso, head and neck.

The researchers found that participants who watched videos with the human-like robot were more (10) to rate the robot’s actions as intentional, rather than programmed, while those who only interacted with the machine-like robot were not. This shows that mere exposure to a human-like robot is not enough to make people believe it is capable of thoughts and emotions. It is human-like behavior that might be crucial for being perceived as an intentional agent.

- | | | | | |
|----|-------------------|--------------------|----------------------|-----------------------|
| 1 | (A) engage with | (B) participate in | (C) join in | (D) accord with |
| 2 | (A) around | (B) among | (C) across | (D) between |
| 3 | (A) share | (B) slice | (C) part | (D) piece |
| 4 | (A) was published | (B) published | (C) became published | (D) publishes |
| 5 | (A) filled | (B) completed | (C) wrote | (D) marked |
| 6 | (A) difference | (B) a different | (C) different | (D) differed |
| 7 | (A) To summarize | (B) For example | (C) Besides | (D) On the other hand |
| 8 | (A) may | (B) could | (C) should | (D) must |
| 9 | (A) to | (B) for | (C) with | (D) into |
| 10 | (A) appropriate | (B) applicable | (C) likely | (D) possible |

V *Part I: Read the following passage and select the best answer to each question listed below it.*

Following a vegan diet doesn't exempt you from recycling or carrying a reusable water bottle, but it does have significant environmental benefits. In 2018, an Oxford University study declared that eating a plant-based diet is the "single biggest way" an individual can reduce their environmental footprint. Researchers have continued to support this claim with evidence upon evidence that demonstrate the planetary harms of animal agriculture from extreme water and land usage to sweeping pollution of water, air, and soil. The logic is simple: it takes far more resources to raise an animal than it does a plant, and while animals emit harmful gases like methane into the air, plants can help neutralize these dangerous carbon gases. Plants also don't produce waste. A typical 2,000 herd of dairy cows, however, produce the same amount of waste as a city with the population size of Minneapolis. Of course, it's important that we still make conscious consumer choices like purchasing sustainable fashion and properly disposing of our trash, but just choosing a pint of non-dairy Ben and Jerry's over the cow-based version inherently has its sustainability merits. Here are four major environmental benefits of a vegan diet to think about.

1 Reduce greenhouse gas emissions

There is a lot that goes into raising the nearly 10 billion animals Americans eat every year—growing and transporting their feed, demolishing forests and natural areas to house them, transporting the animals to the slaughterhouse, and transporting their meat, eggs, or milk to grocery stores. All of these steps involve emissions, but perhaps the most climate-damaging aspect of raising animals for food is the animals themselves. Living, breathing animals burp and fart. It may seem harmless, but when taken by the billions, these enteric emissions add up to a major environmental problem. A quarter of America's agriculture emissions are produced by livestock. What's more, these enteric emissions are methane-based—a dangerous gas strongly tied to adverse climate change. Going vegan, however, can relieve some of the burden caused by animal agriculture. Simply replacing beef consumption with plant-based fuel can drastically reduce an individual's carbon footprint from 1,984

pounds of CO₂ per year to a mere 73 pounds. Yes, in today's modern world of conveniences it's impossible not to contribute some greenhouse gasses, but that doesn't mean we shouldn't try to limit our impact, particularly when going vegan can make such a tremendous and positive difference.

2 Avoid pollution

The bluntly titled children's book *Everybody Poops* nails it: animals poop and urinate, and collectively, this waste adds up in a dizzyingly horrific way. Approximately 2 billion tons of manure are produced by US livestock every year—that's 2 billion pounds of poop every day. Large-scale feedlot operations—where hundreds of animals are raised in a relatively confined area—discard this waste in “manure lagoons.” These enormous pools of excrement are prone to leakage and have been known to contaminate the surrounding soil and groundwater. In fact, containing these lagoons is so impossible that the USDA offers an allowance to feedlot operations for a minimal amount of seepage. Note to self: don't purchase real estate anywhere near an animal feedlot operation.

3 Reduce land use

Nil Zacharias' *Eat for the Planet* outlines the staggering cost of animal agriculture in regard to our natural resources. The reality is that we simply cannot continue to consume animal products at the rate we do now for much longer. Given the predicted global human population of 10 billion in 2050, we would have to magically procure 50-percent more land in order to grow all the food needed to support our consumption habits. It is physically impossible. Already, 127.4 million acres of the contiguous US land are used to grow food for livestock whereas only 77.3 million acres grow the food humans actually eat, according to Bloomberg. There is a finite amount of land on Earth, and the most efficient way to work with what we have is to grow plants instead of animals.

4 Save water

Not even “thirsty” almonds require more water than animal agriculture. To compare, an eight-ounce serving of cow's milk requires 120 liters of water to produce compared to just 74 liters for the same sized serving of almond milk. Less water-intensive crops such as pea and oat only require 1.9 liters and 10 liters, respectively. Looking at the meat category, a pound of beef takes a whopping 1,800 gallons to create, but a pound of tofu only needs 302 gallons. Even eggs take a massive toll on our water resources. Research released by JUST Egg found that a single chicken egg uses 53 gallons of water while a serving of this plant-based pourable egg only requires one gallon of water to manufacture. Given these staggering differences in water usage, it's not surprising that researcher Dana Hunnes at UCLA Sustainability claims that a plant-based diet can cut one's water consumption by up to 50 percent. This isn't an excuse to leave the faucet running while you brush your teeth, but being vegan saves water in a major way.

1. According to the article, _____
 - (A) you no longer have to recycle if you eat a plant-based diet.
 - (B) a 2018 scientific study showed eating a plant-based diet is the single best thing you can do to fight climate change.
 - (C) the planet harms animal agriculture.
 - (D) extreme water and land usage are examples of pollution.

2. According to the article, _____
 - (A) you need more resources to grow a plant than to raise an animal.
 - (B) methane is a harmful gas and is emitted by animals.
 - (C) neither plants nor animals produce waste.
 - (D) it makes no difference for the environment whether you eat dairy or plant-based ice cream.

3. According to the article, _____
 - (A) animal agriculture doesn't lead to deforestation.
 - (B) cow burps are an insignificant contributor to global warming.
 - (C) we can't reduce our environmental footprint to zero so we shouldn't try to reduce it at all.
 - (D) no longer eating beef reduces both methane and CO2 emissions.

4. Why does the article recommend against purchasing real estate near a feedlot operation?
 - (A) Because animals are deprived of their freedom there.
 - (B) Because the author read a children's book about pooping.
 - (C) Because the animal waste produced there contaminates the surrounding soil and groundwater.
 - (D) Because the USDA doesn't allow it.

5. According to the article, _____
 - (A) We can keep consuming the same amount of animal products we currently eat, even with the growing world population.
 - (B) We grow more plants for human consumption than for animal consumption.
 - (C) Cow's milk requires more than ten times the amount of water pea and oat milk do.
 - (D) Plant-based egg alternatives and chicken eggs require the same amount of water.

V Part II: *Read the following passage and select the best answer to each question listed below it.*

If you’ve ever emerged from the shower or returned from walking your dog with a clever idea or a solution to a problem you’d been struggling with, it may not be a fluke.

Rather than constantly grinding away at a problem or desperately seeking a flash of inspiration, research from the last 15 years suggests that people may be more likely to have creative breakthroughs or epiphanies when they’re doing a habitual task that doesn’t require much thought—an activity in which you’re basically on autopilot. This lets your mind wander or engage in spontaneous cognition or “stream of consciousness” thinking, which experts believe helps retrieve unusual memories and generate new ideas.

“People always get surprised when they realize they get interesting, novel ideas at unexpected times because our cultural narrative tells us we should do it through hard work,” says Kalina Christoff, a cognitive neuroscientist at the University of British Columbia in Vancouver. “It’s a pretty universal human experience.”

Now we’re beginning to understand why these clever thoughts occur during more passive activities and what’s happening in the brain, says Christoff. The key, according to the latest research, is a pattern of brain activity—within what’s called the default mode network—that occurs while an individual is resting or performing habitual tasks that don’t require much attention.

Researchers have shown that the default mode network (DMN)—which connects more than a dozen regions of the brain—becomes more active during mind-wandering or passive tasks than when you’re doing something that demands focus. Simply put, the DMN is “the state the brain returns to when you’re not actively engaged,” explains Roger Beaty, a cognitive neuroscientist and director of the Cognitive Neuroscience of Creativity Lab at Penn State University. By contrast, when you’re mired in a demanding task, the brain’s executive control systems keep your thinking focused, analytical, and logical.

A cautionary note: While the default mode network plays a key role in the creative process, “it’s not the only important network,” Beaty says. “Other networks come into play as far as modifying, rejecting, or implementing ideas.” So it’s unwise to place blind faith in ideas that are generated in the shower or during any other bout of mind wandering.

Whether we realize it or not, we all engage in mind-wandering on a regular basis, says Beaty, noting that there are different kinds. There’s deliberate mind-wandering, where you try to exercise some level of control or direction to your thinking; and spontaneous mind-wandering, which happens in the brain without us directing it. In a study in a 2020 issue of PNAS, researchers using electroencephalograms to track people’s brain activity found that spontaneous mind-wandering occurred 47 percent of the time.

It’s the spontaneous form, in particular, that allows you to combine information and ideas in new

ways. “When your mind drifts away from a situation into an internal reverie, that’s where you can have creative insights,” Schooler says. “In this pleasurable state, you’re allowing thoughts to playfully cross your mind.” Keep in mind, he adds, “sometimes you have to do the work to create a problem space—that sets the groundwork for spontaneous ideas to emerge.”

This is often referred to as “the incubation effect,” which occurs when you spend time away from a particular problem or challenge and your mind has the chance to wander and generate novel ideas through unconscious associative processes.

To discover when people get their most innovative ideas, Schooler and his colleagues asked professional writers and physicists to keep a diary for two weeks, in which they reported their most creative idea of the day, what they were doing when it occurred, and whether it felt like an “aha” moment. Approximately 20 percent of their most significant ideas occurred while they were engaging in an activity other than working or while they were thinking about something unrelated to the creative idea, according to the study published in a 2019 issue of the journal *Psychological Science*. More significantly, ideas sparked during mind-wandering moments were more likely to be associated with overcoming an impasse on a vexing problem and to be viewed as “aha” moments.

“You need that exploratory aspect of idea generation in order to be creative,” says Rex Jung, a neuropsychologist at the University of New Mexico in Albuquerque. But, he adds, you need other parts of your brain to pick an idea, evaluate its viability, and implement it in the real world. He notes, “It’s an interplay or dance between the default mode network and the cognitive control network that allows you to generate a creative idea then implement it effectively.”

1. Based on the text, which statement is TRUE?
 - (A) Chances of having an epiphany are higher when you’re grinding away at a problem.
 - (B) Stream of consciousness thinking helps you come up with new ideas.
 - (C) Researchers have been desperately seeking a flash of inspiration for the last 15 years.
 - (D) Research is a habitual task you can do on autopilot.

2. Based on the text, which of the following is FALSE?
 - (A) Our culture teaches us to try and come up with new ideas through hard work.
 - (B) People don’t expect to come up with new ideas when relaxing.
 - (C) Scientists still have no idea why we come up with new ideas during passive activities.
 - (D) A pattern of brain activity in the DMN helps explain why we come up with new ideas during passive activities.

3. Based on the text, which of the following is TRUE?
- (A) The DMN is a specific region of the brain.
 - (B) The DMN is more active during demanding tasks.
 - (C) The DMN is the brain's executive control system.
 - (D) The DMN is the default state our brain returns to when we're resting.
4. Based on the text, which of the following is FALSE?
- (A) We don't control where our thoughts go when we engage in spontaneous mind wandering.
 - (B) We need to engage in deliberate rather than spontaneous mind wandering to come up with new ideas.
 - (C) Spending time away from a problem can help us solve that problem.
 - (D) When mind wandering, we combine information and ideas in new ways.
5. Based on the text, which of the following is TRUE?
- (A) The DMN helps you implement ideas.
 - (B) Mind wandering helps you evaluate the viability of ideas.
 - (C) Mind wandering helps you create a problem space.
 - (D) To generate and implement an idea the DMN and cognitive control network need to collaborate.