

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 (MEXT) SCHOLARSHIP 2024

学科試験 問題

EXAMINATION QUESTIONS

(教員研修留学生)

TEACHER TRAINING STUDENTS

英 語

ENGLISH

注意 ☆試験時間は 60 分。

PLEASE NOTE: THE TEST PERIOD IS 60 MINUTES.

(2024)

ENGLISH	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 () air quality from smoke is a growing concern.
(A) Poor (B) Worse (C) Little (D) Short
- 2 The number of electric vehicles purchased in the U.S. is () to skyrocket.
(A) progressed (B) projected (C) pronounced (D) prospered
- 3 For decades, tourists have been paying for a chance to () an undersea glimpse at the wreck of the Titanic.
(A) catch (B) find (C) throw (D) see
- 4 Music often offers () from the grind of daily life.
(A) release (B) relief (C) reduction (D) receipt
- 5 It was () special, just a run-of-the mill encounter at a Brussels Bubble reception.
(A) neither (B) no (C) everything (D) nothing
- 6 The launch of ChatGPT has sparked a worldwide () on Artificial Intelligence systems.
(A) talk (B) questionnaire (C) topic (D) debate
- 7 We need to () our children with a tool set of skills and strategies to help them develop an enriched sense of wellbeing, belonging and self-esteem.
(A) persuade (B) energize (C) empower (D) boost

- 8 () open the doors and windows to eliminate indoor air pollutants and bring in the natural freshness of the outdoors.
(A) Accidentally (B) Regularly (C) Extensively (D) Rarely
- 9 Google Scholar can be a () starting place, but it is not a comprehensive “one-stop shop.”
(A) convenient (B) confident (C) confidential (D) conceited
- 10 () there is some debate, most scientists agree that the Amazon is the world’s second longest river after the River Nile.
(A) Yet (B) However (C) Despite (D) Although

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

- 1 Throughout our history, humanity () its sights on seemingly impossible goals, and found a way to realize those goals against all obstacles.
(A) has set (B) is setting (C) sets (D) will set
- 2 The film’s sense of wonder and () value is its greatest asset.
(A) educationally (B) education (C) educational (D) educate
- 3 Bananas are by far the most popular fruit in the United States, but consumers know () about the conditions in which they are produced.
(A) poor (B) few (C) little (D) small
- 4 Explore millions of high-quality primary sources and images from around the world, () artworks, maps, photographs, and more.
(A) including (B) included (C) inclusive (D) includes
- 5 Most of the world’s active volcanoes () on the “Ring of Fire”, a 40,000 km horseshoe shaped area of the Pacific Ocean.
(A) are found (B) have found (C) find (D) found

- 6 Space junk is () human-made object orbiting Earth that no longer serves a useful purpose.
 (A) single (B) all (C) any (D) individual
- 7 Young people are increasingly staying () home longer, and more often moving back with parents as adults.
 (A) at (B) in (C) to (D) on
- 8 () plays a crucial role in empowering transgender youth who may be questioning their identities.
 (A) Visible (B) A visibility (C) Visibility (D) Visibly
- 9 Humanewashing describes the use of labels and marketing language to () consumers that the farm animals they are consuming lived good lives.
 (A) convincible (B) conviction (C) convincing (D) convince
- 10 The Guardian reported on the book earlier this year, saying bees' apparent () different human faces, process long-term memories while sleeping, and feel optimistic, playful, and scared raises "complex ethical questions" about our treatment of them.
 (A) able to recognize (B) ability to recognize
 (C) recognize ability (D) able recognition

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

1. (A) Popular culture and gardening are not something we would usually think to put together.
 (B) Yet it was the hugely popular computer game Age of Empires that provided the initial inspiration for Zheng Guogu's Liao Garden in his hometown of Yangjiang. (C) For Guogu, an artist whose work explores the impact of digital technology and western culture on Chinese tradition and contemporary life, the garden seemed like a logical extension of his artistic practice.
 (D) He began constructing the garden in 2005, basing it on the game in where players occupy land in order to create their own new worlds.

2. (A) Many charities have had a tough time of it during the cost of living crisis. (B) It is clear that lots of people still want to support good causes, and that charities and voluntary organisations are needed more now than ever. (C) Despite it is also clear that there is less money and time to go round. (D) The Benefact Group's value of giving report for 2022 showed that, although more people donated to charity last year, they gave less.
3. (A) This collection of stories, the English-language début of an acclaimed Chinese novelist, spans continents and centuries in its depictions of displacement. (B) A band of poets seeks shelter after the devastating earthquake that struck Sichuan Province in 2008; (C) a Chinese woman who moves to Dublin with her Irish husband recalls their fateful honeymoon in Burma; (D) a construction worker who was never left his home town visits New York City.
4. (A) When it comes to home improvements, whether it's decorating the living room or insulating the loft, there is often a choice to be made. (B) Should you call in the professionals, or could you save a lot of money by doing the work yourself? (C) Some tasks are just about manageable for amateurs, even if it takes a while to get it right. (D) Arguable, jobs such as painting and decorating, simple tiling, resealing a bath, changing a washer or even installing new taps, can all be tackled with patience and the right tools – especially if you are prepared to accept that the end results may not be perfect.
5. (A) The Pakistani-born and Denmark-based professor Bilal believes that if used thoughtfully, AI language models could help democratise education and even give way to more knowledge. (B) Many experts have point out that the accuracy and quality of the output produced by language models such as ChatGPT are not trustworthy. (C) The generated text can sometimes be biased, limited or inaccurate. (D) But Bilal says that understanding those limitations, paired with the right approach, can make language models “do a lot of quality labour for you,” notably for academia.

6. (A) The lack of space, unnatural environments and crowded conditions in zoos can directly affect the behavior of animals; most notably in the form of what’s known as “stereotypy.” (B) Stereotypy is a condition in which non-human animals engage in repetitive behaviors with no apparent purpose, such as pacing for hours on end, wagging tails abnormally or picking their own fur. (C) The structure of zoos increases the likelihood of stereotypic behavior due to a lack of enrichment, mundane environments and boring, repetitive schedules. (D) This prevalence of stereotypy in zoos even has it’s own name: “zoochosis,” or psychosis caused by zoos.
7. (A) A computer virus threatens the health of your computer, causing it to get “sick.” (B) Like their organic counterparts, they can also replicate and spread to other computers in your network via infected emails, files and USB drives. (C) They can cause anything from annoying pop-ups to allowing others to control your device. (D) The worst thing that has to happen with a virus is that it wipes out all your hard drives or you get a ransomware attack, wherein someone grabs all your data and then charges you ransom money to get it back.
8. (A) Graffiti and street art have long be considered expressions of rebellion, an underground movement challenging societal norms. (B) However, as the interviews with various artists reveal, these art forms have evolved into powerful means of self-expression and vehicles for cultural transformation. (C) From the origins of hip-hop culture to the gentrification battles fought in Five Points, the journey of these artists highlights the impact of their work and the resilience of their artistic spirit. (D) The interviews shed light on how graffiti and street art have transcended their illicit beginnings to become legitimate art forms.
9. (A) Every second, the equivalent of a lorry full of clothes end up on a landfill site somewhere around the world. (B) People are buying, and casting off, more clothes than ever. (C) On average each consumer buys 60% more clothing than 15 years ago and 92m tonnes of textile waste are created annually. (D) Production and consumption are on the rise, with severe environmental and social implications.
10. (A) Right now a visit to Florida’s famous beaches is akin to taking a dip in a hot tub — with water temperatures in some the places reaching into the 100s. (B) The piping hot seas are enough to dissuade tourists from taking a dip, but there are other, more worrying dangers too. (C) Rising temperatures are damaging coral reefs — 14 percent have already been lost since 2009. (D) What’s worse, human activities like overfishing and aquaculture are helping fuel the destruction.

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

About 675 million people live without electricity worldwide, the vast (1) of them in sub-Saharan Africa, a report published on Tuesday (2). The world is not on (3) to meet the sustainable development goal adopted by UN member countries in 2015 to ensure clean, affordable energy for all (4) 2030, according to the report, which was published by several organisations, including the World Health Organisation and the World Bank.

The world is facing “a recent slowdown in the global pace of electrification,” Guangzhe Chen, vice president of the World Bank, said in a statement. And (5) the number of people living without electricity has almost halved (6) the past decade, 675 million people were still without it in 2021. About 80% of them live in sub-Saharan Africa, where the lack of access to electricity remained almost (7) to the situation in 2010.

(8) the transition to clean energy is progressing faster (9) expect, much remains to be done to provide sustainable, secure and affordable access to modern energy services to the billions of people who are without them, the International Energy Agency’s Executive Director, Fatih Birol, stressed in the joint statement.

Progress has been made on certain points, such as (10) the rate of use of renewable energy in the electricity sector, but it is insufficient to achieve the UN objective.

- | | | | | |
|----|--------------------|------------------|----------------|---------------|
| 1 | (A) majority | (B) number | (C) half | (D) most |
| 2 | (A) has been noted | (B) note | (C) is noting | (D) notes |
| 3 | (A) the fence | (B) track | (C) thin ice | (D) the rocks |
| 4 | (A) at | (B) for | (C) on | (D) by |
| 5 | (A) meanwhile | (B) however | (C) therefore | (D) although |
| 6 | (A) over | (B) between | (C) at | (D) from |
| 7 | (A) the same | (B) similarity | (C) similarly | (D) identical |
| 8 | (A) While | (B) During | (C) When | (D) If |
| 9 | (A) than much | (B) than many | (C) then many | (D) then much |
| 10 | (A) increased | (B) increasingly | (C) increasing | (D) increase |

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

The US Food and Drug Administration on Monday approved the first vaccine that protects newborns from respiratory syncytial virus, known as RSV. The vaccine, made by Pfizer, is given to mothers late in their pregnancies and provides protection to infants through their first six months of life.

In a trial of more than 7,000 pregnant people and their infants, the vaccine, named Abrysvo, cut the risk that infants needed to see a doctor or be admitted to the hospital.

RSV is a common illness and major cause of hospitalization in infants and the elderly each year. It typically hits hardest during the winter months, and the last RSV season was longer and more severe than usual, overwhelming children's hospitals.

"RSV is a common cause of illness in children, and infants are among those at highest risk for severe disease, which can lead to hospitalization," Dr. Peter Marks, director of the FDA's Center for Biologics Evaluation and Research, said in a statement. "This approval provides an option for healthcare providers and pregnant individuals to protect infants from this potentially life-threatening disease."

After decades of study and failed attempts at developing RSV vaccines, there are now several offerings to protect against the virus, including a recently approved antibody shot that can be given to all infants after birth and new vaccines for people 60 and older.

"ABRYSVO's approval as the first and only maternal immunization to help protect newborns immediately at birth through six months from RSV marks a significant milestone for the scientific community and for public health," Annaliesa Anderson, Pfizer's senior vice president and chief scientific officer for vaccine research and development, said in a statement.

Pfizer has said that maternal vaccination could prevent up to 16,000 hospitalizations and more than 300,000 visits to the doctor due to RSV each year, if the vaccine were universally applied.

Still, the vaccine, given from 32 to 36 weeks of gestational age, does not provide long-term protection. For the first three months after birth, the vaccine was 82% effective at preventing severe RSV disease and 57% effective at keeping babies from needing to see the doctor because of an RSV infection. By six months after birth, the vaccine was 69% effective at preventing severe RSV disease and 51% effective at preventing a doctor's visit for RSV-related breathing problems. After about six months, it was about as effective as a placebo at keeping babies from the doctor's office.

Earlier this year, the FDA's vaccine advisers voted unanimously that the vaccine was

effective and 10-4 that data supported its safety. An agency analysis found that there was a slightly higher proportion of preterm birth in babies whose mothers received the RSV vaccine compared with those who got a placebo: 5.7% vs. 4.7%, respectively. The difference was not considered statistically significant, so it could be due to chance.

Pfizer said it plans a large postmarket safety study that will use large databases of commercial claims data, including Medicaid data, to help evaluate safety endpoints – including preterm birth – in everyone who gets the vaccine.

The company is also studying the vaccine in higher-risk children ages 2 to 18 and adults age 18 to 60 who are at higher risk for RSV due to underlying medical conditions or who have weakened immune systems.

1. According to the article, _____
 - (A) only infants suffer from RSV.
 - (B) pregnant people are especially at risk of developing serious symptoms when they contract RSV.
 - (C) RSV is a disease that is less common in summer.
 - (D) there are 7,000 serious cases of RSV each year.

2. According to the article, _____
 - (A) the vaccine is administered to infants directly.
 - (B) people have tried to make an RSV vaccine for many years.
 - (C) the new RSV vaccine will be approved soon.
 - (D) besides the vaccine, an antibody shot called ABRYSSVO is also available.

3. According to the article, _____
 - (A) all FDA's vaccine advisers believe more safety studies are necessary.
 - (B) all FDA's vaccine advisers agreed the vaccine is safe to use.
 - (C) all FDA's vaccine advisers warned about the risk of preterm birth.
 - (D) all FDA's vaccine advisers agreed that the vaccine is effective.

4. According to the article, _____
- (A) Annaliesa Anderson works for the Food and Drug Administration.
 - (B) Dr. Peter Marks works for the FDA.
 - (C) Medicaid has provided data to the FDA.
 - (D) the FDA will apply the vaccine universally.
5. According to the article, _____
- (A) the vaccine can potentially prevent thousands of infants from being hospitalized.
 - (B) the vaccine provides protection for 32 to 36 weeks.
 - (C) a vaccinated infant of one year old has a lower risk of getting an RSV infection.
 - (D) for three-month-old babies, a placebo is as effective as the real vaccine.

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

“The cosmos is within us. We are made of star stuff. We are a way for the universe to know itself.” Carl Sagan

During the course of his 1980s mini-series “Cosmos,” astronomer and science communicator Carl Sagan said many inspirational and profound things based on our understanding of the universe. But arguably, none have resonated with the general public more than the statement above. With this sentiment, Sagan, who passed away in 1996 at the age of 62, was talking about the cosmic origins of humanity. And in a new video from the European Southern Observatory (ESO), part of the Chasing Starlight series, astrophysicist Suzanna Randall explains what this statement means and how it relates to the elements that comprise our bodies.

Randall explains that shortly after the Big Bang, the dense and hot universe was comprised mainly of the two lightest elements, hydrogen and helium, as well as a smattering of heavier elements collectively known as metals. “But, you can’t make up something as complex as the human body of just helium and hydrogen,” she explains. “So, where do the other more complex elements that make up our body and the rest of the universe come from?” Winding the cosmic clock forward to around 100 million years post-Big Bang, Randall explained that this is when the first nebulae — vast clouds of hydrogen and helium — had formed in the universe. When overly dense regions of these nebulae gathered more and more mass from their surroundings, they eventually collapsed under their own gravity, birthing the first generation of stars.

But, like the universe at that time, these stars were all hydrogen and helium with a negligible amount of metals. This first generation of stars fused hydrogen in their cores to create helium, something that Randall points out the sun, our 4.6 billion-year-old star, is doing today. This all means

that, at the time when the first stars existed, the universe still didn't have enough heavy elements needed to form our bodies like nitrogen, oxygen and carbon.

But this changed as the first generation of stars began to die. "When the hydrogen in the core of the star has been used up, things start happening very quickly," Randall says. "The star enters a new phase of its life, called the red giant phase." During the red giant phase, the cores of these first stars would have contracted. Meanwhile, their outer layers, where the nuclear fusion of hydrogen to helium was still taking place, would have puffed out and increased the stars' sizes by as much as 100 times. The core would've continued to contract until conditions at the hearts of the stars, which would've been much more massive than the sun, became hot and dense enough to start fusing helium into heavier elements. And there, elements like carbon and oxygen, which comprise around 84% of our bodies, spawned into existence.

"The majority of the atoms in my body are actually created deep inside stars in these incredibly hot stellar furnaces," Randall explained. The universe finally got the "stuff" needed for life, but that stuff wasn't of much use locked in the hearts of red giant stars. Don't worry, though, these elements wouldn't stay confined for long — not in cosmic terms, anyway. "Stars with more than about eight solar masses continue to fuse elements in their core, and they create heavier and heavier elements — as heavy as iron," Randall said. "At some point, they have to die, and they go out with a bang. They explode as supernovae." During those cosmic explosions, Randall says some astronomers believe even heavier elements, like gold or platinum, had formed. However, other scientists think it would've had to take the collision of two stellar corpses, called neutron stars, and therefore a kilonova explosion to create such precious elements.

What is certain about the supernova explosions of the universe's first stars is they took all the elements forged by these stars during their lives and flung them out into the cosmos. Eventually, these elements were integrated into nebulae and thus became part of the next generation of stars born from those vast dust clouds. That means this next generation of stars was more "metal-rich" than the preceding generation. This continued through to the creation of the third generation of stars, one of which is the sun. Enriched material from the nebula that created the sun, but didn't manage to become part of our star 4.6 billion years ago, then formed a disk of material around the stellar body called a protoplanetary disk. As the name implies, it is from this disk of material that the planets of the solar system, including Earth, formed. And it is from this disk that the elements that make up our bodies are derived.

"As it turns out, Carl Sagan was right. We are literally made up of star stuff," Randall said. "And the story of stars in their lives is also the story of the elements that make up our body. We're all part of this grand cosmic cycle." As the astrophysicist points out, however, we maybe shouldn't let this go to our heads too much. As an ego-cleanser, Randall concludes by adding: "Before you get too excited, cockroaches are also made up of star stuff."

1. Based on the text, which statement is TRUE?
 - (A) “The cosmos is within us” is a statement made by Suzanna Randall.
 - (B) In a new video, Suzanna Randall explains what Carl Sagan meant by “We are made of star stuff.”
 - (C) Carl Sagan worked on the Chasing Starlight series together with Suzanna Randall.
 - (D) Carl Sagan was a member of the European Southern Observatory.

2. Based on the text, which of the following is FALSE?
 - (A) Hydrogen and helium are the lightest elements in the universe.
 - (B) The first nebulae formed around 1,000,000,000 years ago.
 - (C) Nebulae are made up of hydrogen and helium.
 - (D) The first stars were born when nebulae collapsed under their own gravity.

3. Based on the text, which of the following is TRUE?
 - (A) The first stars mainly contained metals.
 - (B) Hydrogen was first formed 4.6 billion years ago.
 - (C) When the hydrogen in the core of a star is used up, the core contracts.
 - (D) During the red giant phase, stars shrink.

4. Based on the text, which of the following is FALSE?
 - (A) Carbon and oxygen make up the majority of elements of our body.
 - (B) Helium can be fused into carbon under the right circumstances.
 - (C) Iron is a heavier element than carbon.
 - (D) Scientists agree elements like gold and platinum were formed during supernova explosions.

5. Based on the text, which of the following is TRUE?
 - (A) The first generation of stars was richer in metals than the next.
 - (B) Our sun is part of the third generation of stars.
 - (C) Carl Sagan’s famous quote is based on a misconception.
 - (D) Humans are superior to other animals because we are made up of star stuff.