前期日程試験

令和７年度医学科入学試験問題

英　　語

〔注意事項〕

1　監督者の指示があるまで，この冊子を開いてはいけない。

2　**解答用紙に受験番号と氏名を必ず記入すること。**

3　この問題冊子の本文は，20 ページからなっている。落丁，乱丁及び印刷不鮮明な箇所等があれば，手をあげて監督者に知らせなさい。

4　この問題冊子の白紙と余白は，適宜下書きに使用してもよい。

5　解答は，すべて別紙「解答用紙」の指定された場所に記入すること。

6　この問題冊子は持ち帰ること。

I **Read the following passage and answer the questions which follow.**

We may allow, then, that language is an impressive human achievement. But is it specifically and uniquely human? Is it species-specific?

One way of addressing this question is to compare the communication of other animals with human language to see whether it has the design features which we have been discussing. There is a difficulty here of knowing how to interpret the data as evidence. How many features, and in what measure of sophistication, does a particular type of communication have to have to qualify as humanlike in kind, even if not in degree? (1) Animal communication may appear to us to be simple, but we do not know how much of its potential is actually realized. It may be that birds and bees and dolphins could reveal more complex combinations of design features if the occasion were to arise. They may have more (2) than their actual behaviour might suggest.

And anyway, it might be objected, how can we actually *know* the significance of the signs of other (3) since we can only interpret them with reference to our own? For all we know, a dog may be able to tell *other* dogs that his/her parents were poor but honest, in a kind of dog idiom we cannot understand. Our judgements are bound to be human-centred. We can imagine the possibility of linguistic sophistication among animals, of course. Children's fiction is full of talking animals. They figure in adult fiction too, often to satirical effect, as in Swift's *Gulliver's Travels* and Orwell's *Animal Farm.* But the animals are all represented as humanlike creatures, and using our language, not their own. The pigs in *Animal Farm,* for example, talk like human politicians. (4) What their own distinctive animal idiom might have been, we have no way of knowing.

Another way of enquiring into whether language is species-specific or not is to try and get another species to learn it. The assumption here is that there might be some linguistic capability within animals which has simply not been

activated by natural requirement. Perhaps the beast only lacks appropriate instruction; perhaps his nonsense-talk is like Caliban's chattering — evidence only of ignorance, not incapacity. Instead of just *observing* behaviour, therefore, what we need to do is to *elicit* it, and actually try to get certain animals to learn aspects of human language. The argument is that if such animals can be induced to acquire language, it cannot in essence be specific to the human species. Since the non-human primates, especially the chimpanzees, are our closest evolutionary kin, they have been taken as the most suitable subjects for treatment.

It was recognized that these primates are not physiologically equipped with the kind of vocal organs suited to human speech, so that if they were to learn language it would have to be separated from speech, through a different medium. Otherwise, all you would get would be beast-like nonsense-talk. One chimpanzee, Washoe, was brought up and instructed in the use of the American Sign Language (ASL). After four years, she appeared to have a range of 80 signs or so, some of which she could use in combination. With another chimpanzee, Sarah, a quite different medium was used, namely a collection of plastic chips of different shape and colour, each of which was the symbol of a distinct meaning. To simulate human language, the relationship between the chips and their meaning was entirely arbitrary (5) (a red square, for example, meant 'banana'). A more sophisticated version of the same sort of system was used with another chimpanzee, Lana, who was taught to press buttons on a computer installed in her room, each button having a different symbol inscribed upon it, again arbitrarily related to its meaning. Both Sarah and Lana learned a range of signs and were able to respond to and manipulate a range of combinations suggesting that Sarah and Lana might have acquired in a simple way some features of the flexibility so characteristic of human (6) language.

The results of all these efforts with chimpanzees, however, have been

unconvincing. Part of the reason for this is the gap between the very efforts themselves and the relatively modest (7) returns by way of learning. Human children appear to acquire language with impressive ease and without the intensive and directed system of instruction which the chimpanzees were subjected to. The fact that so much effort was needed to induce even simple linguistic behaviour might itself be taken as indicative that the subjects lacked the capacity to learn. Certainly, the chimpanzees seemed somewhat lacking in natural language aptitude.

A related point is that whenever special conditions are set up as they were in these cases, with the use of chips and computer buttons, artificial contexts and constant monitoring, it is always possible that these conditions may have a distorting effect on the animals' behaviour. The chimpanzees may have been showing an elaborate conditioned response rather than evidence of any more general capability. Human language provides abundant evidence that it is (8) natural for humans to infer abstract categories from actual occurrences, to go beyond the immediate context, and indeed, as duality shows, to create a level of structure which is exclusively concerned with forms without meaning. It seems, judging from the evidence of these studies, that other primates do not have the same inclination to abstraction.

One reason for the human search for abstraction is that we are thereby enabled to categorize reality and so in some degree at least to control it. Language enables us to predict situations as well as to react to them, and so, in some respects, to make the world conform to our will. It is interesting in this regard that the chimpanzees in question did not seek to use their newly acquired linguistic accomplishment with others of the (3). They appeared not to be aware of the advantage that language might give them. And this, of course, raises a very general (and obvious) question: if these animals, or any others, do indeed have (9), why have they never bothered to exploit it?

But this in turn raises another (equally obvious) question — and one which was touched on earlier. The researchers with Sarah and Lana recognized that the chimpanzees were physiologically unsuited to speech. Therefore, if they were to learn language, it would have to be through some other medium. (10) But then not only are the conditions for learning unnatural, but what they are learning ceases to be natural language. The experimentation might well reveal interesting insights about the nature of chimpanzee intelligence, and this in turn might tell us something about what would for them constitute natural language. For all we know (at present at least) they might have a highly complex and subtle signalling system, a language comparable to ours, but exploiting visual and sound-based elements which do not count as significant to us. It would be interesting to know whether a modern-day Tarzan would do any better among the apes than Washoe and Sarah among the humans. (11) The attempt to teach apes human language reveals as much as anything else how incapable we are of imagining language in any except human terms.

(Adapted from: *Linguistics* by Henry G. Widdowson, Oxford University Press, 1996.)

QUESTIONS

Underlined 1: Explain the meaning of the underlined part in Japanese.

Blank 2: Which word is the best to fill in the blank in accordance with the logic of the text? Write the LETTER of your answer.

(A) accessibility
(B) capability
(C) feasibility
(D) possibility
(E) probability
(F) sensibility

Blank 3: Find ONE suitable word in the passage to fill in both blanks in accordance with the logic of the passage. Write your answer.

Underlined 4: Explain the meaning of the underlined part in Japanese.

Underlined 5: What is the best word to replace the underlined part with? Write the LETTER of your answer.

(A) approximate
(B) casual
(C) inconsistent
(D) random
(E) unaccountable
(F) unscientific

Underlined 6: In Japanese, explain the underlined part in detail specifically by focusing on "the flexibility so characteristic of human language".

Underlined 7: What is the best word to replace the underlined part with? Write the LETTER of your answer.

(A) appropriate
(B) expected
(C) large
(D) limited
(E) predicted
(F) tested

Underlined 8: Explain the meaning of the underlined part in Japanese.

Blank 9: Which phrase is the best to fill in the blank in accordance with the logic of the passage? Write the LETTER of your answer.

(A) a similar capacity for language as human beings
(B) a special technology to learn a language
(C) an abstract capability of acquiring a language
(D) an elaborate conditioned capability of a language
(E) an extraordinary ability to use a language skillfully

Underlined 10: Explain the meaning of the underlined part in Japanese.

Underlined 11: Explain the meaning of the underlined part in Japanese.

II **Read the following passage and answer the questions which follow.**

(1) The last time I saw my mother at her home, it was July, a Sunday. I travelled there by train. At Motteville, I sat in the station for a long time. It was hot. It was quiet, both in the compartment and outside. I looked out the open window; the platform was empty. On the other side of the railroad barriers, the tall grass almost touched the lowest branches of the apple trees. It was then that I could really feel that I was approaching C. and that I was going to see my mother. The train continued on to C. at a reduced speed.

Leaving the station, I thought I recognized various faces, (2) without being able to put a name to any of them. Perhaps I had never known the names. It was less hot, thanks to the wind. It's always windy in C. Everyone, including my mother, believes that it's colder in C. than in other places, even those just five kilometers away.

I didn't take the taxi that was parked in front of the railway hotel, (3) as I would have anywhere else. As soon as I'm in C., I go back to my old ways: a taxi is for communions, weddings, and funerals. There's no reason to spend money like that. I headed up Rue Carnot, to the town center. At the first pâtisserie, I bought cakes, éclairs, and apple tarts — the kind she used to tell me to bring home after going to church. I bought some flowers, too, gladioli, which last a long time. Until I got to the housing complex where she lives, I didn't think anything besides, I'm going to see her again, and she is waiting for me.

I knocked on the narrow door of her ground-floor studio apartment. She called out, "Yes. Come in!"

"You should lock the door!"

"I knew it was you. (4) There's no one else it could have been."

She was not wearing an apron, with lipstick on, laughing, standing by the table. She put her hand on my shoulder, turning her face for me to kiss. At

the same time, she was firing off questions about my trip, the children, the dog. She didn't answer mine. Afraid of being boring, always, when speaking of herself. Later, she repeated, as usual, "I'm fine here. Couldn't be better" and "I have no complaints." The TV was on without sound, just the test pattern on the screen.

She took the gladioli, a little uneasy, and thanked me with an artificial tone to her voice. I had forgotten: my giving her flowers from a florist had always seemed artificial to her, too formal; it hurt her feelings. It was as if I were concerned about her as I would be about a stranger, not family. The cakes pleased her, but she had already bought some for us on her way back from going to church.

We sat opposite each other at the table that, along with the cupboard, almost filled her apartment. I remembered what she'd said the first time I'd come here after she moved in: "I bought it big — it can seat at least ten people!" Not once in six years (5). . . . Nevertheless, she had covered it with an oilcloth, so as not to damage it.

She was breathless as though she had no idea where to start among all the things we had to talk about. She talked about the weather in C. in the spring and the people who had died since my last visit, getting irritated by my failure (6) to remember them, which she felt was intentional — "It's that you don't *want* to remember." Giving me detail after detail until I could figure out whom she meant: the person lived there, her daughter went to school with me, and so on.

We set the table at quarter to twelve. The last time, she'd waited until twelve thirty. She was accelerating everything. At one point, she said that the days of beautiful weather would soon be over.

While looking for napkins, I found a stack of romance magazines at the back of the cupboard. I didn't say anything about them, but she guessed that I'd seen them. "Those little magazines? Paulette gives them to me, otherwise you know I wouldn't read them. That's all she reads, these little stories about

nothing." Still afraid that I'd criticize her reading habits. I almost said that it didn't matter if she preferred *Nous Deux* to the novel by Malraux she'd just borrowed from the public library. (7) She would have been unhappy if I'd seemed to think her incapable of reading the kind of thing I read.

The meal passed in silence. Her eyes on her plate, her slightly sloppy movements those of someone used to eating alone. She refused to let me do the dishes. "What will there be for me to do once you leave?"

She was sitting up straight in her chair, her arms crossed. I'd never seen her move her body in a natural, relaxed way; she never ran her fingers gently through her hair, never slipped a hand inside the neckline of her blouse while deep in a book. Her only unconscious gestures were expressions of fatigue: stretching with her arms above her head, slumping in a chair, her legs out in front of her. Less hardness in her face than there had been, less of that tension you need to make your way through life. Her gray eyes, which had always suspected the worst of me, were fixed on me with a hungry softness. She had been counting the days, had told herself in the morning that this was the day I was coming, and there we were, the two of us, and half our time had already passed. The tone of our visit was playful and kind. The other tone, the violence from when I was fifteen, would not return. "Cow, bitch, I'm killing myself for her."

I could hear cars in the distance on the main road, a radio in the apartment next door, broadcasting the Tour de France, perhaps.

"It's peaceful."

"It's always peaceful here. Sundays are the quietest."

Many times she had advised me to get some rest during my vacation. The sentence that used to horrify me the most when I was complaining that I didn't know what to do: "Just have a little rest." Again, I felt the beginning of annoyance, but her (8) words had no power over me anymore. They only reawakened memories, the way sports radio on Sunday or an apple tart can. I

could feel the boredom of summers in C.: reading from morning to night; Sunday movies, restricted or for adults only in the three-quarters-empty theater of the Mondial, while she thought I was out for a "nice walk" with an older cousin; the children's games at the street fair for local businesses; the public dance hall, which I didn't dare enter.

In the middle of the afternoon, a cat appeared in front of the window of the kitchenette. She jumped up from her armchair to let it in, an "adopted" cat that she fed, that slept on her bed in the daytime. (9) She was the happiest she'd been since I got there. The cat kept us busy for a long time — watching it, taking turns holding it. She recounted all of its tricks; "the little pig" tore with its sharp nails the curtains, and even her wrists, which were striped with red in two places. As she used to, she said, "Every living thing is beautiful." She seemed to have forgotten that I was going to leave.

(10) At the last minute, she pulled out a form that urgently needed to be filled out for her Social Security. "I don't have time. Just give it to me and I'll send it to you." "It'll take no time. You're five minutes from the station." "I'll miss my train." "You've never missed it. You can take the next one." She was on the verge of tears. She concluded with her (11) habitual "This is very upsetting for me."

After kissing me at the door, she tried to keep talking. Last image of her: in the doorway, large arms framing her heavy silhouette in a yellow dress — her prettiest one, tight around the chest and the belly — a wide, fixed smile. This time, once again, I felt that I was leaving badly, in a cowardly way.

I took the shortest route to the train, the one that goes past the Shell station. There, in the old days, I'd stop to prepare myself for her questioning look when I returned from the cinema, mentally preparing myself, wiping off what was left of my lipstick. *What will people think of you?*

A month later, I came back to see my mother. She had suffered sunstroke after going to church and had been admitted to the hospital in C. I opened the

windows in her apartment, retrieved paperwork from her cupboard, and threw out the food in the fridge.

(Adapted from: "Returns" by Annie Ernaux in *The New Yorker*, November 14, 2022.)

QUESTIONS

Underlined 1: Based on the whole context/passage, explain in English why this is the last time that the guest saw her host in her own apartment.

Underlined 2: Explain the meaning of the underlined part by filling in each blank with an appropriate English word/appropriate English words.

She is not able to _____ any of the names from the _____.

Underlined 3: Choose the best answer to fill in the following blank and write the LETTER of your answer.

The narrator does not take a taxi to the host's apartment because _____.

(A) there is no taxi available at the railway station
(B) the host's apartment is by the railway station
(C) she is not in the habit of taking taxis
(D) in her youth, taxis were only for special, formal occasions
(E) the train was late because it had slowed before arriving at C

Underlined 4: Why is there "no one else it could have been" at the door? Choose the best answer and write the LETTER of your answer.

(A) The resident of the apartment maintains a schedule of expected visitors.

(B) The host recognizes the gladioli brought as a gift by her visitor.

(C) The guest always calls ahead to say she is coming.

(D) The visitor doesn't take the same train at the same time when she visits.

(E) The host, living alone, almost never has any other human visitors.

5. Fill in the missing portion at the end of the sentence (. . .) with appropriate English words to make a comprehensible sentence.

Underlined 6: In English, give one reason why the host's memory about their shared past is better than that of her occasional visitor.

Underlined 7: Choose the best answer to fill in the following blank and write the LETTER of your answer.

The guest decides to make no comment regarding her host's reading material because _____.

(A) the host, though she accepts romance magazines from her friends, doesn't read them
(B) the guest does not wish to hurt the feelings of her host by commenting on the cheap romance magazines she has found in the apartment
(C) the guest does not know where the cheap romance magazines that she finds in the apartment came from
(D) the guest wants to pretend that she never saw the cheap romance magazines in the apartment
(E) the guest is in a hurry to catch the next train

Underlined 8: Explain why the host no longer has any power over the life of her guest by filling in the blank with an appropriate English word/appropriate English words.

The guest has _____ and has another life other than that of attending to her host's interests and needs.

Underlined 9: Explain why the adopted, visiting cat makes the host so much happier than her guest by filling in the blanks with an appropriate English word/appropriate English words.

Because the cat is a _____ visitor and, unlike the _____ guest, is a familiar presence in a lonely life.

Underlined 10: "At the last minute" refers to which of the following? Write the LETTER of your answer.

(A) The time immediately before the deadline that was set for the form to be filled out.

(B) The time immediately preceding the visitor's planned departure.

(C) The time immediately preceding the moment when she stops playing with the cat.

(D) The last minute before the host and guest become angry with each other.

(E) The last minute before the guest is about to put the cat out of the house.

Underlined 11: Explain why the phrase "this is very upsetting for me" is "habitual" to the ears of the visitor by filling in the blanks with an appropriate English word/appropriate English words.

Because it is a _____ phrase and is often repeated when the host is _____.

12. Find one suitable word in the passage which might describe the visit of the guest to the host's apartment in accordance with the context of the whole passage. Write your answer.

Ⅲ Read the following passage and answer the questions which follow.

When researchers at Lawrence Livermore National Laboratory in California announced last week that they had achieved the first controlled nuclear fusion reaction to produce more energy than it took to start, they brought humanity one step closer to utilizing the power of the sun — not by absorbing its rays from 93 million miles away, as solar panels do, but by creating, in effect, a miniature star on Earth.

Scientists have been thinking about how to utilize fusion since the 1930s. Like fission, the nuclear reaction that powers today's nuclear plants, fusion produces emissions-free electricity, but without the long-lived toxic byproducts or risk of catastrophic accidents.

Fusion does create radioactive waste, like fission, but it is less hazardous and could be recycled within 100 years, instead of requiring storage deep underground for tens of thousands of years.

Fusion also yields several times more energy by weight than fission and millions of times more than the combustion of fossil fuels: A very small number of reactants (isotopes of hydrogen, the most abundant element in the universe) could produce enough energy for a person's lifetime.

In theory, fusion could have distinct advantages over other renewable energy sources. One of the factors behind the research is that it would require less land than solar and wind farms, a frequent reason for local opposition to construction, and could deliver electricity all day and all night without long-term storage, which remains beyond the capabilities of current battery technology. And as a nearly limitless source of power, supporters say it could help solve some of humanity's most urgent problems beyond climate change, like poverty (by removing a major barrier — lack of access to clean, reliable electricity — to economic development) and clean water scarcity (by providing the enormous amounts of energy needed to remove the salt from seawater.)

But for fusion to happen on Earth, the fuel has to be heated to more than a hundred million degrees Celsius — hotter than the core of the sun — which

poses extraordinary engineering challenges. One reactor design approach, used by the world's largest fusion facility, an international project located in France, involves containing plasma with giant magnets strong enough to lift an aircraft carrier and chilled to an extremely cold temperature. Another approach used by Livermore involves repeatedly striking a tiny pellet of fuel with the world's most powerful lasers.

Until now, no approach has been able to produce more energy from a reactor than it consumed, long identified as the technology's proof of concept. "That is a true breakthrough moment which is very exciting," Jeremy Chittenden, a professor of plasma physics at Imperial College London, said of the Livermore achievement.

As significant as last week's announcement was, huge technological and economic hurdles still have to be cleared before fusion reaches true usability. For one thing, the lasers that powered the Livermore experiment were terribly inefficient, so while the reaction did produce more energy than the lasers delivered, it still fell far short of the energy that the lasers needed to draw from the grid to operate. For another, the pellet-sized fuel targets each cost thousands of dollars to manufacture. A commercial fusion power plant would require much more efficient, faster-firing lasers and targets that cost only about 25 cents.

"This result is miles away from the actual energy gain required for the production of electricity," Tony Roulstone, a fusion expert at Cambridge, told CNN. "We can say it is a success of the science but a long way from producing useful energy."

But some are hopeful that, with enough funding, the pace of fusion's development could accelerate. In the 1970s, the U.S. Energy Research and Development Administration predicted that commercial fusion could be realized by 1990 with $9 billion in yearly investment, while yearly investment of $1 billion or less would lead to "Fusion Never." "And that's about what's been spent," Steven Cowley, a British physicist, told *The New Yorker* last year.

"Pretty close to the maximum amount you could spend in order to never get there."

If investors now perceive fusion as having taken a leap forward, from a fantasy to a potential, highly profitable reality, that stagnation could finally break. "The timeline depends on the motivation we have and the amount of investment that society puts forth and the number of people who get excited and want to work on these challenges," Sam Wurzel, the technology-to-market adviser at ARPA-E, told us. "The excitement is at a level I've never seen."

That's true of the U.S. government, which recently increased its funding for fusion research and construction. And it's also true of investors in the private sector, where dozens of fusion start-ups have emerged with $5 billion worth of help from the likes of Bill Gates, Jeff Bezos, and Peter Thiel.

Most of these companies hope to provide fusion electricity to the grid sometime in the 2030s. "It will take hard work and innovation, but this is what we do in the U.S. I think it is possible to meet this goal and the fusion research community is ready to roll up our sleeves and make it happen," said Troy Carter, a plasma physicist at the University of California, Los Angeles.

However, other specialists think the entry of fusion-sourced electricity to the grid is several decades away. The Livermore experiment has been compared to the Wright brothers' first flight, but to the author, Charles Seife, it's less "like the successful first flight than a lab experiment demonstrating that air flowing over a wing can produce a little bit of lift," as he wrote in *The Atlantic*. "The work doesn't address any of the numerous other scientific, technical, and design problems that would need to be solved before we really can take off from the ground and claim that we've produced more energy with fusion than we've consumed."

In the meantime, given the urgency of reducing greenhouse gas emissions now, many climate scientists, policymakers, and activists say we should focus on scaling up the renewable energy technologies already available.

"Imagine, if everything goes right, a world where, in a quarter-century's time, we can take down the solar panels and wind turbines we're now erecting

and replace them with elegant fusion reactors," writes Bill McKibben in *The New Yorker*. "That first transition is important because, without it, those elegant reactors will be used, if at all, on a badly degraded, even broken planet."

And in a world of limited resources, too much faith and investment in fusion could come at the expense of that first transition. "Part of the rationale for financing this hugely expensive technology rests on the assumption that the world will fail to sufficiently reduce its carbon emissions," writes India Bourke in *The New Statesman*. "Preparing for the worst could make it inevitable."

For many, the optimal climate strategy requires aggressively using the technologies humanity has while still chasing the ones humanity dreams of. "Investing in nuclear fusion now will not make the next few decades of an accelerating climate crisis any easier," writes Sabine Hossenfelder, a theoretical physicist, in *The Times*. "But after all the damage that our short-term thinking has done to this planet, let us think past 2050, and show our children that we care."

(Adapted from: "Could fusion arrive in time to solve climate change?" by Spencer Bokat-Lindell in *The New York Times*, December 23, 2022.)

QUESTIONS

According to the content of the passage, write T for True, F for False or N for Not mentioned in the text for each statement. Answer a question with "N" only if the statement is either not present in the text or cannot be inferred from the information in the text.

1. During the mid-1930s, scientists began easily applying energy produced by fusion at about the same time as the research on energy produced by fission was published.

2. Fusion creates more energy by weight than traditional nuclear fission reactors.

3. Some local resistance to building wind farms and solar panels has been one of the factors behind the research for more radical methods of energy production like fusion.

4. Fusion-generated energy would be an important social innovation because it might contribute to a reduction in world poverty for those lacking access to pollution-free and stable electricity.

5. Successful laboratory production of energy by fusion is very different from being able to use that energy in our daily lives.

6. Along with an increase in public funding by the U.S. government, some wealthy private investors are now funding fusion projects with "start-ups."

7. Transitional innovations to bridge the gap between the use of renewable energy sources (wind and solar) and the pursuit of energy generated by fusion have already begun as a result of recent increases in U.S. government financial support, negotiations between local governments and communities and political lobbying.

8. The experiment at the Livermore laboratory did not contribute to reducing carbon emissions from fossil fuels.

Ⅳ Read the following and write an essay in English in about 200 words.

During the last few years, there has been a lot of debate about the use of Generative Artificial Intelligence (AI) tools, such as ChatGPT. Write an essay which explains (1) one appropriate use of Generative AI and (2) one ethically inappropriate use of Generative AI. You should include one reason and one specific example for each of (1) and (2).