

【注意事項】

- 試験監督による解答始めの指示があるまで、この問題冊子の中を見てはいけません。
- 試験時間は60分です。
- この問題冊子は1ページから11ページまであります。
- 解答は解答用紙(マークシート)の所定欄に記入しなさい。
- 解答は所定欄に濃くはっきりとマークしなさい。その際、ボールペン・サインペン・万年筆等は使用してはならない。その他マークの仕方に関しては、解答用紙(マークシート)の注意事項をよく読むこと。
- 試験監督の指示により、解答用紙(マークシート)に氏名(フリガナ)および受験番号を記入し、さらに受験番号および志望学科をマークしなさい。
- 試験監督の指示により、問題冊子にも受験番号および氏名を記入しなさい。
- 解答用紙(マークシート)は折り曲げたり、メモやチェック等で汚したりしないように注意しなさい。
- 試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁および解答用紙の汚れ等に気づいた場合は、手を高く挙げて試験監督に知らせなさい。
- 試験終了後、問題冊子と解答用紙(マークシート)はともに机上に置いておくこと。持ち帰ってはけません。

I 次の英文を読み、下の設問に答えなさい。

(7) Giant manta rays have been filmed checking out their reflections in a way that suggests they are self-aware.

Only a small number of animals, mostly primates<sup>\*1</sup>, have passed the mirror test, widely ( 1 ) as a <sup>(6)</sup> tentative test of self-awareness. "This new discovery is incredibly important," says Marc Bekoff, of the University of Colorado in Boulder. "It shows that we really need to expand the range of animals we study." But not everyone is convinced that the new study proves conclusively that manta rays, which have the largest brains of any fish, can do this — or indeed, that the mirror test itself is an appropriate measure of self-awareness.

Csilla Ari, of the University of South Florida in Tampa, filmed two giant manta rays in a tank, with and without a mirror inside. The fish changed their behavior in a way that suggested that they recognized the reflections as themselves ( 2 ) another manta ray.

They did not show signs of social interaction with the image, which is what you would expect if they <sup>(7)</sup> perceived it to be another individual. Instead, the rays repeatedly moved their fins and circled in front of ( 3 ) mirror. This suggests they could see whether their reflection moved when they moved. The frequency of these movements was much higher when the mirror was in the tank than when it was not. The rays also blew bubbles in front of the mirror, behavior that Ari had not observed in the rays before. "The behavioral responses strongly imply the ability for self-awareness, especially considering that similar, or analogous<sup>\*2</sup>, behavioral responses are considered proof of self-awareness ( 4 ) great apes<sup>\*3</sup>," Ari says.

Diana Reiss, of Hunter College in New York, says that it is interesting that manta rays did not show social behavior towards the mirror image, as fish usually do. But she says it is unclear whether the rays actually recognized themselves in the mirror. Gordon G. Gallup Jr., of the University at Albany, New York, who originally developed the mirror test, is also skeptical. The unusual movements in front of the mirror might have merely been a sign of curiosity or <sup>(8)</sup> exploratory behavior, he says.

Other studies have suggested that dolphins, elephants, monkeys and magpies<sup>\*4</sup>, and even a robot, can recognize themselves in the mirror. But Gallup says these were usually conducted on just one or two animals and the results were not reproducible<sup>\*5</sup>. "Humans, chimpanzees and orangutans are the only <sup>(9)</sup> species for which there is compelling<sup>\*6</sup>, reproducible evidence for mirror self-recognition," he says. This implies that self-awareness may be limited to humans and some great apes.

However, Bekoff says that the mirror test may not be the litmus test for self-awareness in all animals. It is a visual measure, so it might not work in species that navigate their worlds primarily using senses other than vision. Such species may fail the mirror test, but they may still be self-aware, Bekoff says. He thinks it is time to <sup>(10)</sup> raise the bar on the way we study self-awareness in animals, including manta rays. "It would be nice if someone could do neuroimaging<sup>\*7</sup> while these animals are doing something ( 5 ) seeing a reflection," he says.

[出典：(c) 2016 New Scientist Ltd. All rights reserved. Distributed by Tribune Content Agency]

注：\*1 primate 「霊長類」 \*2 analogous 「類似した」  
\*3 great ape 「大型の類人猿」 \*4 magpie 「カササギ」  
\*5 reproducible 「再現可能な」 \*6 compelling 「説得力のある」  
\*7 neuroimaging 「神経画像検査」

問1 本文中の(1)～(5)の空欄に入る最も適切なものを、それぞれ①～④の中から一つずつ選びなさい。

- |                      |              |                |               |
|----------------------|--------------|----------------|---------------|
| (1) ① used           | ② using      | ③ uses         | ④ use         |
| (2) ① as opposed to  | ② on the way | ③ similarly to | ④ so as to    |
| (3) ① a              | ② the        | ③ an           | ④ those       |
| (4) ① along          | ② at         | ③ above        | ④ in          |
| (5) ① in response to | ② wrong      | ③ in place of  | ④ indifferent |

問2 本文中の下線部(6)～(10)の語句に最も近い意味のものを、それぞれ①～④の中から一つずつ選びなさい。

- |                           |                       |                              |                            |                         |
|---------------------------|-----------------------|------------------------------|----------------------------|-------------------------|
| (6) <u>tentative</u>      | ① attentive           | ② commercial                 | ③ tending                  | ④ temporary             |
| (7) <u>perceived</u>      | ① called              | ② deceived                   | ③ named                    | ④ regarded              |
| (8) <u>exploratory</u>    | ① experimental        | ② expressing                 | ③ exercising               | ④ expository            |
| (9) <u>species</u>        | ① pieces              | ② type                       | ③ people                   | ④ ape                   |
| (10) <u>raise the bar</u> | ① examine differently | ② investigate medical issues | ③ look into a legal matter | ④ set a higher standard |

問3 下記の(11)～(13)の各問いの答えとして最も適切なものを、それぞれ①～④の中から一つずつ選びなさい。

- (11) Which of the following statements argues against (7)?
- The manta rays blew bubbles in front of the mirror.
  - The manta rays more frequently moved their fins in front of the mirror than when without the mirror.
  - The movement of the manta rays was a sign of curiosity or exploratory behavior.
  - The researcher had never seen the manta rays' curious behavior in front of the mirror before.
- (12) Which of the following statements supports (7)?
- It is unclear whether the manta rays could actually recognize themselves in the mirror.
  - Only great apes repeatedly showed evidence of self-awareness in different experiments.
  - The manta rays' movements in front of the mirror may only mean they are interested.
  - The manta rays did not show social behavior towards their own mirror images.
- (13) What does a researcher mention as a next step to study self-awareness in animals?
- To conduct a litmus test for self-awareness in all animals.
  - To conduct a neuroimaging study on animals.
  - To use a visual measure for manta rays.
  - To use a visual measure for species that do not use visual sense.

II 次の(14)～(23)の各英文の空欄に入る最も適切なものを、それぞれ①～④の中から一つずつ選びなさい。

- (14) The new grading system ( ) the university was going to adopt led to many protests.  
 ① that            ② where            ③ why            ④ when
- (15) We always need ( ) nothing lasts forever.  
 ① for remembering            ② to remembering  
 ③ to remember            ④ remember about
- (16) I have ( ) patience left, so stop complaining.  
 ① little            ② a small            ③ few            ④ a few
- (17) On the way home I got into a taxi quickly because I ( ) by two strangers.  
 ① had followed            ② was followed  
 ③ was following            ④ had been following
- (18) I don't want to have my tooth ( ) today because I am just scared.  
 ① to be pulled            ② be pulled            ③ pulled            ④ to pull
- (19) No matter ( ), you still shouldn't take such risks.  
 ① fitting you are            ② how to fit you  
 ③ what fits you are            ④ how fit you are
- (20) He was not ready for the finals, ( ) he studied a lot.  
 ① although            ② nonetheless            ③ however            ④ regardless
- (21) As soon as the dishes ( ), you can go out and play.  
 ① are done            ② will do            ③ finished            ④ will be finished
- (22) If I were the prime minister, I ( ) make college free for everyone.  
 ① would have            ② would            ③ will            ④ going to
- (23) My teacher wanted ( ) a speech in class.  
 ① I talk to            ② myself to give            ③ me to give            ④ to talk to

III 次の英文を読み、(24)～(28)の答えとして最も適切なものを、それぞれ①～④の中から一つずつ選びなさい。

WRITING ASSIGNMENT INSTRUCTIONS

**Directions:** Based on what you have learned in class so far, write a unified and clear essay to answer the questions raised by one of the lessons. You are expected to consult outside sources, that is, to go beyond what has been presented in class.

**Format:**

- ・ 3 pages (maximum) of text, with references on a separate page
- ・ 12-point normal font (e.g. Times New Roman)
- ・ Double-spaced
- ・ 2.5 cm margins with page numbers

**Grading (15 points)**

- ・ Quality of presentation of the issues (10 points): showing understanding and knowledge of the topic
- ・ Writing level (3 points): writing is clear, concise, and arguments are logical
- ・ Citations\*1 (2 points): appropriate use of relevant sources

**Citations:** Make sure you have the text on the first 3 pages and the list of references on a separate page. You are expected to read and reference 5 or more articles that *were not used in class*. Examples of appropriate references include, but are not limited to, journal articles, newspaper articles, and material from websites. More references beyond 5 do not give you more points. As a guideline, use citations appropriately to support the points that you make.

If you still have questions, please email your teaching assistant.

Note: Due to the large number of students in the class, we cannot review rough drafts.

注：\*1 citation 「引用」

(24) Who most likely wrote the instructions?

- ① A mailman at a post office.
- ② A newspaper journalist.
- ③ A professor at a university.
- ④ A student at a high school.

(25) What is the main purpose of these instructions?

- ① To clarify how to write a journal article.
- ② To demonstrate how to grade students' essays.
- ③ To explain how to complete the homework.
- ④ To teach how to write citations for an essay.

(26) Besides the references, how many pages of text should there be?

- ① No more than 3 pages.
- ② No less than 3 pages.
- ③ Exactly 3 pages.
- ④ 3 pages or more.

(27) In completing the task, which of the following is most important?

- ① To limit the number of citations.
- ② To have as many references as possible.
- ③ To research the topic and demonstrate understanding of it.
- ④ To write grammatically correct sentences.

(28) In completing the task, which of the following is NOT recommended?

- ① To email teaching assistant when the instructions are not clear.
- ② To go beyond what has been discussed in class.
- ③ To read five or more articles for this task.
- ④ To submit rough drafts to receive feedback in advance.

IV 次の英文が論理的に意味の通るものになるように、(29)～(32)に最もよくあてはまる文を①～⑧の中から一つずつ選びなさい。

Dear Dr. Yamada,

( 29 ) on Tuesdays at 10 a.m. After looking over the syllabus last night, I noticed that the deadline for our final essay is listed as March 7, which is a Monday. However, in class, the deadline was noted as being Thursday, March 10. ( 30 ) but I wanted to verify the correct deadline so that I can appropriately organize my schedule and turn in my assignment on time. ( 31 ).

( 32 ),

Toshi Suzuki

- ① Best regards
- ② I don't mean to bother you
- ③ I would like to apologize for what happened on Friday
- ④ It was really nice meeting you the other day
- ⑤ My name is Toshi Suzuki, and I am in your Old English course
- ⑥ Please let us know if you want us to stop by
- ⑦ Thank you so much for your time and patience
- ⑧ You should have shown us more examples

[出典：How to Email a Professor: 11 Tips from Real Professors, Jes, D.A. of Scribendi]

V 次の(ア)～(エ)の各日本語の文の意味を表すように、各空欄にそれぞれ①～⑧の語を入れて英文を完成させ、(33)～(40)に入るものを一つずつ選びなさい。なお、文頭にくる選択肢も小文字で表記してあります。

(ア) 動物の遊び行動がどのくらい幅広いのか、そしてその進化における機能が何でありえるのかについては議論されています。ラインホルドらはネズミが人間とかくれんぼができることを示しました。

There is controversy ( ) ( ) ( 33 ) animal play behavior ( ) and ( ) its evolutionary function might ( ). Reinhold and others ( ) ( 34 ) rats can play hide-and-seek with a human.

- ① what            ② be            ③ is            ④ that
- ⑤ widespread            ⑥ regarding            ⑦ demonstrated            ⑧ how

(イ) 「探す」という条件では、ネズミは隠れた人間を探すことを学び、彼らが見つかるまで探し続けました。

(     ) (     ) “seek” condition, rats learned to ( 35 ) (     ) the  
(     ) ( 36 ) and kept (     ) (     ) they found them.

- ① hidden            ② look            ③ for            ④ the  
⑤ until            ⑥ seeking        ⑦ humans        ⑧ in

(ウ) ネズミたちは見つかるまでいくつかの場所のうちの一つに隠れることも学びました。どちらの場合もネズミは人間との社会的交流という報酬を得ました。

The rats also mastered hiding in one of (     ) ( 37 ) and waited there until  
(     ) (     ). In both cases, the rats were (     ) by (     ) ( 38 )  
(     ) the human.

- ① with            ② interaction    ③ being           ④ locations  
⑤ rewarded       ⑥ social           ⑦ several          ⑧ found

(エ) ネズミたちは探したり見つけたりする時に声を出し、隠れるときに沈黙しました。脳の記録によると、ゲームの構造に敏感に反応するニューロンが検出されました。

Rats vocalized ( 39 ) (     ) and finding and were (     ) when they were  
hiding. Recordings (     ) the brain (     ) (     ) that were sensitive  
( 40 ) (     ) game structure.

- ① the            ② when           ③ neurons        ④ silent  
⑤ to            ⑥ seeking        ⑦ detected       ⑧ in

[出典：From Behavioral and neural correlates of hide-and-seek in rats by Annika Stefanie Reinhold, Juan Ignacio Sanguinetti-Scheck, Konstantin Hartmannl, Michael Brecht. Reprinted with permission from AAAS.]