K 6　　　　英　　　　語

この冊子は，英語の問題で 1 ページより 15 ページまであります。

〔注　　意〕

(1)　試験開始の指示があるまで，この冊子を開いてはいけません。

(2)　監督者から受験番号等記入の指示があったら，解答用紙に受験番号と氏名を記入
　してください。また，解答用マークシートに受験番号と氏名を記入し，さらに受験
　番号をマークしてください。

(3)　解答は，所定の解答用紙に記入したもの及び解答用マークシートにマークしたも
　のだけが採点されます。

(4)　解答用マークシートについて

　①　解答用マークシートは，絶対に折り曲げてはいけません。

　②　マークには黒鉛筆（ＨＢまたはＢ）を使用してください。

　　　指定の黒鉛筆以外でマークした場合，採点できないことがあります。

　③　誤ってマークした場合は，消しゴムで丁寧に消し，消しくずを完全に取り除い
　　たうえ，新たにマークしてください。

　④　解答欄のマークは，横 1 行について 1 箇所に限ります。

　　　2 箇所以上マークすると採点されません。

　　　あいまいなマークは無効となるので，はっきりマークしてください。

　⑤　解答用マークシートに記載されている解答上の注意事項を，必ず読んでから解
　　答してください。

(5)　試験開始の指示があったら，初めに問題冊子のページ数を確認してください。

　　　ページの落丁・乱丁，印刷不鮮明等に気づいた場合は，手を挙げて監督者に知ら
　せてください。

(6)　問題冊子は，試験終了後，持ち帰ってください。

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1 Read the passage below and answer the questions that follow.　(41 points)

When faced with driving dilemmas, people show a high willingness to sacrifice themselves for others, make decisions based on the victim's age and *swerve onto sidewalks to minimize the number of lives lost, reveals new research published in open-access journal *Frontiers in Behavioral Neuroscience*. This is (1) at odds with ethical guidelines in these circumstances, which often dictate that no life should be valued over another.　This research hopes to initiate discussions about the way self-driving vehicles should be programmed to deal with situations that endanger human life.

"The technological advancement and adoption of *autonomous vehicles is moving quickly but the social and ethical discussions about their behavior are lagging behind," says lead author Lasse T. Bergmann, who completed this study (2) with a team at the Institute of Cognitive Science, University of Osnabrück, Germany.　"The behavior that will be considered as right in such situations depends on which factors are considered to be both morally relevant and (　3　) acceptable."

Traffic accidents are a major source of death and injury in the world.　As technology improves, automated vehicles will outperform their human counterparts, saving lives by eliminating accidents caused by human error. Despite this, there will still be circumstances where self-driving vehicles will need to make decisions in a morally challenging situation.　For example, a car can swerve to avoid hitting a child that has run into the road but in doing so endangers other lives.　How should it be programmed to behave?

An ethics commission initiated by the German Ministry for Transportation has created a set of guidelines, representing its members' best judgment on a

variety of issues concerning self-driving cars. These expert judgments may, however, not (4) human intuition.

Bergmann and colleagues designed a virtual reality experiment to examine human intuition in a variety of possible driving scenarios. Different sets of tests were created to highlight different factors that may or may not be perceived as morally relevant. Based on a traditional ethical thought experiment, the trolley problem, test subjects could choose between two lanes (5) on which their vehicle drove at constant speed. They were presented with a morally challenging driving dilemma, such as an option to move lanes to minimize lives lost, a choice between victims of different age, or a possibility for self-sacrifice to save others.

It revealed that human intuition was often at odds with ethical guidelines.

Bergmann explains, "The German ethics commission proposes that a passenger in the vehicle may not be sacrificed to save more people; an intuition not generally shared by subjects in our experiment. We also find that people chose to save more lives, even if this involves swerving onto the sidewalk — endangering people (6) the traffic incident. Furthermore, subjects considered the factor of age, for example, choosing to save children over the elderly."

He continues, "If autonomous vehicles abide with guidelines dictated by the (7) ethics commission, our experimental evidence suggests that people would not be happy with the decisions their cars make for them."

Professor Gordon Pipa, co-author, also based at the University of Osnabrück continues, "It is urgent that we start engaging into a *societal discussion to

define the goals and constraints of future rules that apply to self-drive vehicles. This needs to happen (8) they become an integral part of our daily lives."

Bergmann explains that further research is needed. "While 'dilemma' situations deserve more study, other questions should also be discussed. Driving requires an intricate weighing of risks versus <u>rewards</u>, for example speed versus the
(9)
danger of a critical situation unfolding. Decision-making processes that precede or avoid a critical situation should also be investigated."

(*Science News*, May 3, 2018)

(Notes)

swerve : turn suddenly to one side when moving along

autonomous vehicles : self-driving cars

societal : of society

(1) Which of the items below is the closest in meaning to the underlined part (1) in the passage? Choose one from the choices, and mark the number on **Answer Sheet A.**

    1 This chimes with

    2 This does not agree with

    3 This is strange for

    4 This is unimportant for

(2) Which of the items below is the closest in meaning to the underlined part (2) in the passage? Choose one from the choices, and mark the number on **Answer Sheet A.**

    1 constantly taking place

    2 developing more slowly

    3 following closely along

    4 happening soon after

(3) Which of the items below correctly fills in the blank (　3　)? Consider the context, choose one from the choices, and mark the number on **Answer Sheet A.**

    1 economically   2 socially

    3 technologically   4 theoretically

(4) Which of the items below correctly fills in the blank (　4　)? Consider the context, choose one from the choices, and mark the number on **Answer Sheet A.**

    1 contradict   2 promote

    3 reflect   4 refuse

(5) Which of the items below is the closest in meaning to the underlined part (5) in the passage? Choose one from the choices, and mark the number on **Answer Sheet A.**

    1 causes that affect something

    2 people chosen to be studied in an experiment

    3 things being considered

    4 the main areas of interest treated in a work

(6) Which of the items below correctly fills in the blank (6)? Consider the context, choose one from the choices, and mark the number on **Answer Sheet A.**

　1　committed to　　　　　　　2　immersed in

　3　intervening in　　　　　　　4　uninvolved in

(7) Which of the items below is the closest in meaning to the underlined part (7) in the passage? Choose one from the choices, and mark the number on **Answer Sheet A.**

　1　defy　　　　　　　　　　　2　follow

　3　ignore　　　　　　　　　　4　violate

(8) Which of the items below correctly fills in the blank (8)? Consider the context, choose one from the choices, and mark the number on **Answer Sheet A.**

　1　after　　　　　　　　　　　2　before

　3　lest　　　　　　　　　　　　4　unless

(9) Which of the items below is the closest in meaning to the underlined part (9) in the passage? Choose one from the choices, and mark the number on **Answer Sheet A.**

　1　benefits　　　　　　　　　　2　drawbacks

　3　refunds　　　　　　　　　　4　retributions

(10) For each of the following statements, mark **Answer Sheet A** with either **T** if it is true, or **F** if it is false.

(1) Driverless cars encounter situations requiring moral assessment.

(2) New research suggests that people may be happy with the decisions their cars make.

(3) The experiments are designed to test driverless cars' ability to obey human instinct.

(4) The experiments have revealed a high willingness for self-sacrifice.

(5) The tests indicate a tendency for drivers to swerve onto the sidewalk to save more lives.

(6) Intuitions are never in discord with ethically acceptable behavior.

(11) The following is the headline of the passage above.

"Should ethics or human (X) drive the moral judgments of driverless cars?"

Which of the items below correctly fills in the blank (X)? Using your understanding of the passage, choose one from the choices, and mark the number on **Answer Sheet A**.

1 deduction   2 intuition

3 reason   4 reflection

2 For each sentence below, which of the following items correctly fills in the blank in the best possible way? Choose one from the choices, and mark the number on **Answer Sheet A.** (16 points)

(1) Most people (1) the mayor, so she'll probably lose the next election.

1 are fed up with 2 have faith in

3 put dependence on 4 show favor toward

(2) A driver should be in control of the car, not the (2) way around.

1 another 2 long

3 other 4 others

(3) This may sound (3), but I think we need a comma between these two phrases.

1 authentic 2 complimentary

3 crucial 4 trivial

(4) The sudden rise in the value of the euro may well have the effect of choking (4) the recovery from the present recession.

1 away 2 down

3 off 4 over

(5) We were all tired from working so long, so we decided to call it a (5) and go home.

1 break 2 date

3 day 4 name

(6) The windows of our house are double-glassed, which helps (6) heat in cold weather and reduce costs for electricity.

1 check
2 delay
3 limit
4 retain

(7) Joanna (7) herself to the security guard with her student card each time before entering the genetic laboratory.

1 detected
2 identified
3 promoted
4 recognized

(8) James was overjoyed when he was informed that he won a full scholarship, so it took a while for him to (8) what had happened.

1 deny
2 grasp
3 neglect
4 overlook

3   Change the word in (   ) into the most suitable word form to make each sentence grammatically accurate, and write it in the box on **Answer Sheet B.**

(18 points)

(1)   I hear that the problem of tax (**avoid**) by global companies will be raised at the next meeting.

(2)   Giraffes and elephants are actual animals, while dragons and unicorns are (**imagine**) animals.

(3)   You'd better keep the (**receive**) of the washing machine you've bought. You need it when you refund it in case it doesn't work properly.

(4)   Mr. and Mrs. Johnson have three daughters. They're all in their teens. Emily, Pearl and Sylvia are 15, 17 and 19 (**respect**).

(5)   I'd like to buy a new bike in cash. If I buy it in cash, the price will be 10% off. I'm going to withdraw some of my (**save**) and buy it tomorrow.

(6)   The suitcase (**weight**) almost nothing. Even a small kid can lift it.

（下書き用紙）

4 Choose one item from the answer choices below to fill in each blank in the sentence and complete the phrases in the best possible way. Mark the numbers from top to bottom on **Answer Sheet A**. All answer choices start with lower-case letters. (25 points)

(1) People often selectively (1) (2) (3) (4) (5) (6) (7).

1 a   2 attend   3 different

4 of   5 parts   6 presentation

7 to

(2) The language I'm learning is very complicated. If it weren't, I (1) (2) (3) (4) (5) (6) (7) (8) the first course.

1 basic   2 be able to   3 grammar

4 finishing   5 the   6 understand

7 upon   8 would

(3) I would like to suggest (1) (2) (3) improving (4) (5) (6).

1 current   2 of   3 possible ways

4 situation   5 the   6 two

(4) The Japanese (1) (2) (3) (4) (5) (6) (7) (8) supplies.

1 depend   2 for   3 of

4 the majority of   5 the rest   6 the world

7 their food   8 upon

(5) (1) (2) (3) (4) (5) (6) there alone?

1 made   2 she   3 think

4 went   5 what   6 you