

英 語

〔理学部・工学部・農学部・水産学部〕

注 意 事 項

1. 「解答始め」の合図があるまでこの冊子は開かないこと。
2. この冊子は表紙を除いて 15 ページである。
3. 「解答始め」の合図があったら、まず、黒板等に掲示又は板書してある問題冊子ページ数・解答用紙枚数・下書き用紙枚数が、自分に配付された数と合っているか確認し、もし数が合わない場合は手を高く挙げ申し出ること。次に、学部名・受験番号・氏名を必ずすべての解答用紙の指定された箇所に記入してから、解答を始めること。
4. 解答は、必ず解答用紙の指定された所に記入すること。

問題訂正

訂正箇所：大問1 設問（3）

誤

・・・後続く二つの段落のなかから・・・

正

・・・後続く二つの段落（下線部は除く）のな
かから・・・

1 次の英文を読み、設問に答えなさい。

著作権保護の観点から、公表していません。

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(Adapted from BBC: How boredom can spark creativity,
<https://www.bbc.com/culture/article/20200522-how-boredom-can-spark-creativity>)

(注) *Rolling Stone* : ローリング・ストーン(雑誌の名前)

spur : 駆り立てる

subject : 被験者

outperform : ~をしのぐ

lie fallow : (才能などが)眠っている

itch : (~したくて)むずむずする

aversive : 嫌悪を示す

設 問

- (1) 下線部(1)において Again boredom became a great motivator と述べられているが, Kate Nash にとって最初に boredom became a great motivator となった状況はどのようなものだったか, 日本語で簡潔に説明しなさい。
- (2) 下線部(2)の研究の実験において, ①被験者グループの creativity をはかるために共通しておこなわせた作業は何か, 日本語で説明しなさい。また, ②この実験で最も creativity が高いと判断されたグループは最初にどのような作業をしたグループか, 日本語で説明しなさい。①と②の答えをそれぞれの解答欄に記入しなさい。
- (3) 空欄(A)に入る最も適切な語を, 後に続く二つの段落のなかから英語一語で答えなさい。
- (4) 下線部(3)の a 'desire bind' とはどのような状態か, 日本語で説明しなさい。
- (5) 空欄(B)に入る最も適切な語句を, 以下の選択肢から一つ選んで記号で答えなさい。
- | | |
|----------------------|----------------------|
| (ア) what you hope | (イ) what you are |
| (ウ) what it is about | (エ) what it leads to |

試験問題は次に続く。

- 2 次の英文はアメリカにおける自動運転車の開発やそれに対する国民の意見について書かれたものである。これを読み、設問に答えなさい。

The widespread use of self-driving cars will always hinge on whether or not human drivers adopt the technology. Many drivers say they don't want to give up control of their cars. They don't want to lose the feelings of power, speed, and freedom that come from driving. Others are skeptical about the safety of self-driving technology, even though studies say self-driving cars would be safer than cars operated by human drivers.

Most drivers have a distorted sense of their own abilities as drivers. A 2011 study ⁽¹⁾ from the NHTSA suggested that nearly two-thirds of American drivers rate their driving skills as excellent or very good. However, a large percentage of Americans exhibit risky behaviors when they drive. The study revealed that more than 40 percent of drivers report that they have driven at times at speeds 20 miles (32 km) per hour over the speed limit. And 15 percent of drivers say they have driven while intoxicated. Self-driving technology eliminates risky driving behaviors. Yet many drivers' false sense of their own abilities and decision-making skills makes them (A) to believe that self-driving cars could be safer.

The first traffic fatality to involve a car using self-driving technology took place in Williston, Florida, during May 2016. A Tesla Model S electric car collided with a large tractor-trailer while in Autopilot mode. According to (B) by the National Transportation Safety Board (NTSB), a federal agency, (C) happened when the tractor-trailer made (D) in front of the Tesla at an intersection. The Model S failed to apply its brakes. It struck the trailer and then veered off the road and struck a power pole. The Tesla passenger died at the scene due to injuries from the crash.

In September 2017, after a yearlong investigation, the NTSB concluded that Tesla's Autopilot technology "played a major role" in the crash in Florida. The board said that Autopilot had performed as intended and the driver of the tractor-trailer did not observe the Tesla. But the fatal collision took place because the Tesla driver kept the system working and turned his attention from the road in conditions that were too dangerous to

do so. “The combined effects of human error and the lack of sufficient system controls
(2) resulted in a fatal collision that should not have happened,” said Robert Sumwalt, the chairperson of the NTSB.

Fear of the unknown is a basic human emotion. In the case of self-driving cars, many people question whether the software can be truly reliable. People worry about whether or not hackers might take control of the cars. People also doubt that artificial intelligence will ever be able to handle the complex and uncertain events that take place on roads. For instance, will self-driving cars operate properly in bad weather? Can they handle random occurrences such as large animals on the road?

Some skeptics believe that advocates for self-driving cars have overstated the technology’s benefits. That is, they believe self-driving cars won’t be able to function as safely as predicted.

(Adapted from Michael Fallon’s *Self-Driving Cars: The New Way Forward*, Twenty-First Century Books, 2019)

(注) self-driving cars : (運転手がハンドルを操作しなくても走行できる)自動運転車

hinge on : ～次第である

distort : ゆがめる

NHTSA : 米国運輸省道路交通安全局

intoxicated : 酒に酔って

Tesla Model S : テスラ社の S 型

collide : 衝突する

tractor-trailer : トレーラートラック

Autopilot : (運転手の操作を支援する)自動運転支援システム

the National Transportation Safety Board (NTSB) : 米国国家運輸安全委員会

veer off : 逸れる

power pole : 電柱

skeptic : 疑い深い人

advocate : 提唱者

overstate : 誇張して述べる

設 問

- (1) 下線部(1) a distorted sense of their own abilities as drivers は、運転の実態とずれた運転手の意識のことを言っているが、具体的にはどのような意識か。2011年の調査結果から日本語で答えなさい。
- (2) 空欄(A)に入る最も適切な語句を、以下の選択肢から一つ選んで記号で答えなさい。
- | | |
|--------------------|--------------------|
| (ア) more likely | (イ) less willing |
| (ウ) more convinced | (エ) less reluctant |
- (3) 文脈から判断して、空欄(B)～(D)に入る最も適切な語句を、以下の選択肢から一つずつ選んで記号で答えなさい。(余分な選択肢が一つある。)
- | | |
|----------------------|------------------------|
| (ア) the accident | (イ) a sudden left turn |
| (ウ) an investigation | (エ) a breakdown |
- (4) 下線部(2) human error とは、Tesla Model S の運転手について言えば、具体的にどのようなことか、日本語で答えなさい。
- (5) Fear of the unknown is... から始まる段落で、①自動運転を機能させるソフトウェアの安全性に対する不安としてどのような事態が想定されているか、また、②人工知能(artificial intelligence)の路上での対応に対する疑問としてどのような事態が想定されているか。①については一つの例を、②については二つの例を、それぞれの解答欄に日本語で記入しなさい。

試験問題は次に続く。

3 次の各文の()に入る最も適切な語句を選択肢から一つ選び、記号で答えなさい。

(1) We shall hold a meeting () we can solve the problem.

(ア) lest

(イ) so that

(ウ) to

(エ) the same

(2) The new video game is not so popular () its complicated story.

(ア) among

(イ) since

(ウ) despite

(エ) owing to

(3) After the drama (), the audience began to leave the theater.

(ア) have ended

(イ) end

(ウ) had ended

(エ) has been ended

(4) Several guests at the restaurant complained about () cold food yesterday.

(ア) to be served

(イ) being served

(ウ) served

(エ) having served

(5) I couldn't fix the broken bicycle (), so I asked my father to help me.

(ア) myself

(イ) each other

(ウ) over

(エ) one another's

- (6) I cannot think of anything () can be the evidence of his betrayal.
- | | |
|----------|-----------|
| (ア) when | (イ) that |
| (ウ) who | (エ) where |
- (7) I am () to see all the amazing monuments built by the ancient Egyptians.
- | | |
|--------------|---------------|
| (ア) exciting | (イ) to excite |
| (ウ) excite | (エ) excited |
- (8) The new smartphone app was expected to be a success, () very few customers actually downloaded it.
- | | |
|-----------------|--------------|
| (ア) yet | (イ) besides |
| (ウ) in addition | (エ) moreover |
- (9) All the New Year cards got () on schedule.
- | | |
|-------------------|----------------|
| (ア) delivering | (イ) to deliver |
| (ウ) to be deliver | (エ) delivered |
- (10) () the exam results were published, all the students ran to the notice boards.
- | | |
|----------------|----------|
| (ア) As long as | (イ) Soon |
| (ウ) The moment | (エ) If |

4

次の対話の下線部(1)～(4)の日本語を英語に直しなさい。

A: Hi, it's been a long time since I last saw you. How have you been?

B: What do you mean? We meet every day.

A: We only meet online by using chat rooms, social media groups, and smartphone apps. It's not the same.

B: Oh, I see your point. I guess that's right; we do spend most of our time online. だから、面と向かって人と話すと新鮮を感じるね。
(1)

A: I do almost everything online. I checked how much time I have been using my smartphone. このところ、毎日平均5時間くらい使っているよ。
(2)

B: That's a lot. でも、スマートフォンのおかげで実際に会えない人とつながることができるよね。
(3)

A: Sure, but, as you mentioned, I still think we need to spend some time meeting people in a real situation; going for a coffee, or just hanging out. 時々、自分の友達は皆、現実の人ではなくて、プロフィール画像とユーザーネームだけだと感じるよ。
(4)

B: All right, let's go and get some coffee. It's my treat.

試験問題は次に続く。

5

次の英文を読み、設問に答えなさい。

In our hectic world, a good night's sleep is worth its weight in gold when it comes to improving physical and mental well-being. Much more than a basic method of energy conservation, sleep is a state during which muscle and bone are generated and (A), and memories and learning systems are (B). Sleep also allows the body and brain to clear out the toxic byproducts of the day's waking activity that might (C) build up and cause harm. In short, good sleep is a foundation of human health.

Sadly, (D) of us are blessed with the bounty of a good night's sleep after a long and often tiring day. Around 30% of adults experience chronic insomnia at some point in their life — where sleep is disrupted for more than a month. Estimates are even higher in older populations and those who experience regular stress.

Insomnia can be devastating, and has been linked to cognitive deficiencies — such as memory lapses, psychological problems including mood and anxiety disorders, and long-term health concerns including obesity and dementia. The most severe cases of chronic insomnia can even increase the risk of mortality.

The cost of insomnia goes well beyond just health. According to the National Sleep Foundation, ⁽¹⁾insomniacs are two to four times more likely to have an accident — with over 72,000 traffic accidents a year in the US alone linked to sleep deprivation. Insomnia also costs US companies an estimated \$150 billion in reduced productivity, every year.

Research has shown that listening to “self-selected” music — music of your choice — can actually shorten stage two sleep cycles. This means people reach restful REM sleep — the restorative part of our sleep — more quickly.

In the study, students who listened to 45 minutes of music before bedtime for three weeks saw a positive effect on sleep efficiency with similar effects reported in older citizens. Following all this evidence, the NHS now recommends “listening to soft music” ⁽²⁾before bedtime as a method to prevent insomnia.

(Adapted from ‘How Listening to Music Could Help You Beat Insomnia’ by Victoria Williamson. <https://theconversation.com/how-listening-to-music-could-help->

you-beat-insomnia-61622.)

- (注) hectic : 大変忙しい worth its weight in gold : 非常に有益な, 貴重な
generate : 生成する toxic byproduct : 毒性のある副生成物
bounty : 恵み chronic : 慢性の
insomnia : 不眠 cognitive deficiency : 認知の低下
lapse : (記憶の)途切れ dementia : 認知症 mortality : 死亡
the National Sleep Foundation : 国立睡眠財団 deprivation : 欠如, 不足
REM sleep : レム睡眠(睡眠中に脳が覚醒している状態)
restorative : 回復させる
NHS : National Health Service(イギリスの国民保健機関)

設 問

- (1) 空欄(A)に入る最も適切な語を, 以下の選択肢から選んで記号で答えなさい。
- (ア) pointed (イ) repaired (ウ) compared (エ) twisted
- (2) 空欄(B)に入る最も適切な語を, 以下の選択肢から選んで記号で答えなさい。
- (ア) imposed (イ) disclosed (ウ) updated (エ) retired
- (3) 空欄(C)に入る最も適切な語を, 以下の選択肢から選んで記号で答えなさい。
- (ア) whereas (イ) never (ウ) less (エ) otherwise
- (4) 空欄(D)に入る最も適切な語句を, 以下の選択肢から選んで記号で答えなさい。
- (ア) all (イ) not all (ウ) none (エ) most

- (5) 下線部(1)について、不眠が健康への影響の他にどのような点に影響を与えていると述べられているか、アメリカ合衆国の二つの事例を、それぞれ統計結果に基づいた数値を含めて日本語で簡潔に説明しなさい。
- (6) 下線部(2)について、NHS がこの方法を勧めるに至った根拠の一つとして、具体的にどのような実験が行われたか、日本語で答えなさい。