

平成30年度 入学試験問題

英語問題用紙(後期)

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|------|-------|
| 試験時間 | 90分 |
| 問題用紙 | 1～14頁 |

注意事項

1. 指示があるまで問題用紙は開かないこと。
2. 問題用紙および解答用紙に落丁、乱丁、印刷の不鮮明な箇所があったら、手を挙げて監督者に知らせること。
3. 解答が終わっても、または試験を放棄する場合でも、試験終了までは退場できない。
4. 携帯電話等の電子機器類は電源を必ず切り、鞆の中にしまうこと。
5. 机上には、受験票と筆記用具(鉛筆、シャープペンシル、消しゴム)および時計(計時機能のみ)以外は置かないこと。(耳栓、コンパス、定規等は使用できない。)
6. 問題用紙および解答用紙に受験番号と氏名を記入すること。
7. 解答はすべて解答用紙の所定の解答欄に記入すること。欄外には何も書かないこと。
8. この問題用紙の余白は自由に用いてよい。
9. 質問、トイレ、体調不良等で用件のある場合は、無言のまま手を挙げて監督者の指示に従うこと。
10. 中途退室時は、問題用紙および解答用紙を裏返しにすること。
11. 受験中不正行為があった場合は、試験の一切を無効とし、試験終了時間まで別室で待機を命じる。
12. 試験終了後、解答用紙は裏返し、問題用紙は持ち帰ること。

| | | | |
|------|--|----|--|
| 受験番号 | | 氏名 | |
|------|--|----|--|

[I] 次の英文を読み、設問に答えよ。解答用紙（記述用）に記入すること。

It's a myth that humans only use 10% of their brains. "That idea is not only inaccurate, it doesn't make any sense," says Earl Miller, a professor of neuroscience at the Picower Institute for Learning and Memory at the Massachusetts Institute of Technology. "Even the simplest behaviors engage much of our brain."

But while that old 10% dictum is bogus, it's true that many of us have some untapped reserves of mental acuity that, if harnessed, could sharpen our powers of insight and analysis. The key to accessing those reserves, Miller says, is to stay focused. " A ."

Distractions are powerful drains on the brain's ability to focus, and one of the best ways to get more from your mind is to give yourself the gift of uninterrupted stretches of time.

Think of your mind as a muscle that can be strengthened with exercise. But the latest science suggests that "exercise" doesn't mean app-based brain games or activities like Sudoku, but bouts of prolonged, uninterrupted concentration, Miller says. Put simply, a distracted brain is a dumb brain. Unfortunately, "our brains are curious and are always interested in what's going on around us, so it's very hard to ignore all that and to stay focused."

Distractions are ubiquitous, popping up as email alerts, text messages and social network updates. "People think that they can multitask and check these things without losing their focus, but we have lots of studies showing that task-switching leads to mistakes and backtracking, and that it wastes a lot of time," Miller says. And all of these interruptions seem to be getting in the way of more creative, profound insights. When your brain is bombarded by distraction, "your thoughts are more superficial, and you're not getting as far down that path to where new ideas emerge."

Other experts agree. Switching between tasks can result in a phenomenon called "(1) attention residue," according to the work of Sophie Leroy, assistant professor of business at the University of Washington. When you ask your brain to quickly shift from one task to another, it struggles to cleanly discard the first and move on to the next. "Let's say I work on a project right up until I have a meeting," she says. "I may be at the meeting, but my brain is still trying to find closure on that project I was working on, so questions and ruminations about that project are interfering with my ability to concentrate."

The more tasks you ask your brain to perform in a short period of time, the more that cognitive clutter accumulates, and the more your performance declines. Calvin Newport, associate professor of computer science at Georgetown University and author of the book *Deep Work*, puts that performance decline in real-world terms. "Anecdotally, it seems like most people experience a 50% drop in productivity and cognitive capacity when in a state of distraction," he says. And even though a quick peek at your inbox or social feed only takes a

second, “the duration of those checks does not correlate to the magnitude of the distraction,” Newport says.

Newport realized just how much those quick checks were tanking his brain’s performance when he wrote his last book. In an effort to be more productive, he started scheduling blocks of time to check his phone or email, while committing the rest of his day solely to his book or his research duties as an academic. “I should have had less time for my usual work because I was also researching and writing this book,” he says. “But the number of peer-reviewed papers I published that year went up by a factor of two.”

One of the best ways to sharpen your focus—and therefore enhance your brainpower—is to schedule this sort of uninterrupted time to focus on the cognitive tasks that matter to you. “It’s not uncommon for people who do this to talk about their productivity increasing,” Newport says.

It’s also important to complete one mental task before moving on to another. “If you have a meeting at 11, most of us will work until 10:59 and then rush to the meeting,” Leroy says. “That doesn’t give the brain time to figure out what it’s accomplished or what else needs to be done, and so there’s no closure.” Your brain needs that closure, she says, in order to transition effectively to its next chore. She recommends taking some time between mental tasks—even a minute or two—to consider the work your brain just performed. “Write down where you are and what you want to do when you return to the task,” she says.

Another simple-sounding—yet challenging—recommendation is to inject more boredom into your life. “Don’t pull out the phone when standing in line, and if you’re sitting alone somewhere, try it without looking at a screen,” Newport says. Most of us need these breaks if we hope to stay focused on anything for longer than a few minutes. “The brain has to be comfortable not getting some shiny new stimuli from a device every few seconds,” he says.

問1 に入れるのにふさわしい文となるように、[]内の英語を並べ替えて次の英文を完成させよ。解答用紙のそれぞれのカッコ内に、「/」で区切られた英語を書き入れること。

The main () () () () () () distraction.

[our / is / cognition / that / thing / impedes]

問2 下線部(1)はどのような状況を示すのか。日本語で説明せよ。

問 3 本文では、取り挙げた問題を解決するために一般の人々が日常、個々人で具体的にを行うことができる方法が示唆されている。このことに関して、次の設問に答えよ。

(1) 自分の体験に基づいた解決策を示している研究者の名前を書け。姓のみ書くこと。

例: John Smith → Smith

(2) その解決策の内容を本文の趣旨に即して日本語で書け。

問 4 本文の内容に合わないものを次の(1)～(5)から 2 つ選び、その番号を書け。さらにそれぞれそのように判断した理由を、本文の具体的な内容に照らして日本語で説明せよ。

(1) The reason our brain is easily distracted is that it is naturally alert to interpreting sensory input.

(2) The results of recent research question the effectiveness of playing so-called brain-training games in promoting extended concentration.

(3) Short interruptions while working on something can inspire moments of breakthroughs in creative thinking.

(4) According to Leroy, the issue of attention residue can be eased by organizing your work schedule and securing periods of uninterrupted time.

(5) Our work performance is expected to improve if we devote ourselves to one task over an extended period of time, while eliminating the urge to multitask.

[II] 設問に答えよ。解答用紙（記述用）に記入すること。

問 1 次の英文において、 ～ に入れるのに最もふさわしい動詞を次の語群から選び、必要ならば適切な形に直して 1 語で書け。なお、同じ語を繰り返して選ばないこととする。

| | | | | |
|---------|-----------|-------|---------|---------|
| arise | associate | color | compare | descend |
| explain | limit | pass | predict | settle |

Researchers in Denmark have recently determined that all people with blue eyes from one common ancestor. The majority of humans have brown or green eyes, and the variation between brown and green can be by variations in the amount of melanin in the iris of the eye. On the other hand, people with blue eyes have a genetic mutation that the production of melanin in the iris. In blue eyes, the amount of melanin varies very little, which indicates that this from a mutation in a single person between 6,000 and 10,000 years ago. In the paper, the researchers noted that this mutation has neither a positive nor negative effect on survival, which allowed it to be down in a subsection of the population.

問 2 次の英文において、下線部(1)～(10)のうち 5 か所に文法的な誤りがある。誤りの番号をそれぞれ解答欄に書き、正しい英語に直した単語 1 語を矢印の右側に書け。

Dementia is a syndrome, not a disease itself, (1)consisting of a group of symptoms associated with a progressive decline in mental function, while (2)conscious is not affected. It occurs (3)primary in people over 65, but is not a part of normal aging. It is characterized by multiple cognitive impairment, including problems with language, difficulty (4)completing simple calculations, changes in personality and (5)behavior, and (6)lose of memory. When symptoms are (7)seriously enough to interfere with a person's (8)independence and daily activities, she or he is considered to be developing dementia. Its impact on people can be physical, (9)psychology, social and (10)economic.

[III] 下記の指示に従って英文を書け。解答用紙（記述用）に記入すること。

Do you think that people can learn better by themselves, or that it is better to have a teacher?
Use specific reasons and examples to explain your answer.

(下書き用紙)

[IV] 設問に答えよ。

解答用紙（マークシート）に記入すること。（各問に通し番号がついているので対応する欄に解答せよ。）

1. 名詞としての用法を持たない単語を(a)～(d)から1つ選べ。

- (a) delay
- (b) struggle
- (c) inherit
- (d) reply

2. 動詞としての用法を持たない単語を(a)～(d)から1つ選べ。

- (a) choice
- (b) measure
- (c) highlight
- (d) function

3. 名詞としての用法, および動詞としての用法を両方持つ単語を(a)～(d)から1つ選べ。

- (a) ban
- (b) predict
- (c) disturb
- (d) hinder

4. 下線部の発音がほかの3つと異なる単語を(a)～(d)から1つ選べ。

- (a) typhoon
- (b) wool
- (c) smooth
- (d) stool

5. 下線部の発音がほかの3つと異なる単語を(a)～(d)から1つ選べ。

- (a) sour
- (b) encounter
- (c) frown
- (d) court

6. 最も強く発音される部分が第一音節にあるものを(a)～(d)からすべて選べ。

- (a) an-xi-e-ty
- (b) pri-or-i-ty
- (c) al-ler-gy
- (d) kid-ney

7. 最も強く発音される部分が第二音節にあるものを(a)～(d)からすべて選べ。

- (a) ex-cel
- (b) con-se-quence
- (c) in-jec-tion
- (d) nour-ish-ment

8. 最も強く発音される部分が第三音節にあるものを(a)～(d)からすべて選べ。

- (a) si-mul-ta-ne-ous
- (b) an-ti-bi-o-tic
- (c) am-bi-gu-ous
- (d) to-le-rance

[V] Read the text and answer the questions that follow.

解答用紙（マークシート）に記入すること。各問に通し番号がついているので対応する欄に解答すること。

What do screaming Justin Bieber fans and dignified Beethoven buffs have in common? They might argue that it's not much, but they've both been trained to (1) appreciate certain combinations of notes, like a perfect fifth chord, that musicians in all genres have long deployed because they were considered universally pleasurable—until now.

According to a study coauthored by an MIT professor and published Wednesday in the scientific journal *Nature*, what makes a chord sound good or not—what makes it consonant or dissonant, in scientific parlance—is not some preference hardwired into our brains. We aren't born with a taste for some chords over others. Rather, study author Josh McDermott said, our tastes are shaped by the music we're exposed to. And because nearly everyone is exposed to Western music, whether pop songs or symphonies, people have wrongly come to believe that there is a shared, universal standard for what makes music sound good.

To test this theory, McDermott and coauthor Ricardo Godoy, an anthropologist at Brandeis, flew, bused, and then canoed to visit the Tsimane tribe in the Bolivian Amazon, members had almost zero exposure to Western music. The researchers played classically harmonious chords, like the perfect fifth of B and F#, along with classically unharmonious ones, like the minor second of D# and E, which rings with a melancholy feel.

To their surprise, the tribe members rated both chords equally likable. In other words, the supposed innate preference for certain types of music is anything but. "It raises the possibility that things vary a lot more from culture to culture than people might have wanted to accept," McDermott said. "And it really (2) underscores the importance of looking at the music of other cultures if we really want to understand what music is all about." "There's often a tendency to assume that structures that are important in Western music are just important, period," he said.

The results were surprising, McDermott said, because the scientific community has long hypothesized that musical preferences might be rooted in biology. His and Godoy's findings (3) buoy the theories of less scientific groups, like musicians and composers, who have maintained that taste in music is a cultural creation.

(4) The new study is one of the most conclusive ever performed on the issue of consonance and dissonance, McDermott said, but many questions remain. He doesn't know, for example, at what age these learned preferences start manifesting themselves, or if those exposed to just Eastern music show the same preferences. In fact, Godoy said, they don't even

know why those exposed to Western music learn to prefer consonance—they just know that they do.

Finding another group like the Tsimane to conduct follow-up studies, though, might be difficult. “It would have been a lot easier to do all this 40 years ago, before Western music had sort of taken over the world via the Internet,” McDermott said. “It’s getting pretty hard to find people that don’t have a lot of exposure to Western music. It’s pretty much ubiquitous.” Godoy put it in more stark terms: “We need a little more focus on trying to do good experiments and get good data on how people from these societies interpret sounds, before they vanish forever.”

But as tribes and populations evolve, so music tastes. According to Susan Rogers, an associate professor at Berklee College of Music who has studied music cognition, the findings demonstrate how fluid musical preferences can be. Over many millennia, she said, humans have learned to find consonance beautiful—but “it could go another way,” she said. “Music is constantly evolving; we experiment all the time. Future generations may not regard the difference between consonance and dissonance to be as meaningful as we find it today.”

Summary

Recent research some of the long-held theories about human taste in music. In one study, researchers found that preference for consonant sounds was among the Tsimane tribe. This seems to imply that musical taste comes from rather than something .

9. Choose from the following to best fill to complete the summary.

- (a) challenges
- (b) reveals
- (c) advances
- (d) confirms

10. Choose from the following to best fill to complete the summary.

- (a) prevalent
- (b) dominant
- (c) absent
- (d) inevitable

11. Choose from the following to best fill to complete the summary.

- (a) cultural
- (b) biology
- (c) expose
- (d) familiarity

12. Choose from the following to best fill to complete the summary.

- (a) culture
- (b) cultural
- (c) biology
- (d) biological

13. In which one of the following is the word “appreciate”, marked (1) in the text, used in the sense that it is used in the text?

- (a) I appreciate this opportunity to put my point of view to the committee.
- (b) They don't have any confidence that houses will appreciate in value.
- (c) We appreciate the need for immediate action.
- (d) Her employer does not fully appreciate her abilities.

14. Which of the following would best fill ?

- (a) whose
- (b) which
- (c) to whom
- (d) that

15. Which of the following is the closest in meaning to the word “underscores”, marked (2) in the text?

- (a) undermines
- (b) emphasizes
- (c) exaggerates
- (d) illustrates

16. Which of the following can best be used instead of “buoy”, marked (3) in the text?

- (a) strengthen
- (b) cast doubt on
- (c) conclude that
- (d) support

17. Which of the following would best fill ?

- (a) do
- (b) as
- (c) that
- (d) likely

18. Where should the following statement be placed in the article? Choose the number corresponding to the location.

“Our results provide a pretty strong cautionary note of one example where that is pretty clearly not the case.”

- (a)
- (b)
- (c)
- (d)

19. Choose ALL of the statements that are true about the tribe, according to the article.

- (a) The Tsimane tribe tends to value pop songs over symphonies.
- (b) The Tsimane tribe is minimally influenced by Western culture.
- (c) The Tsimane people grow up in an environment where dissonance is favored to consonance.
- (d) The Tsimane people reside in a remote location in Bolivia.

20. Which of the following can be inferred about "The new study", marked (4) in the text?
Choose ALL that are true.

- (a) This study has clearly shown why consonance is preferred to dissonance among people exposed to Western music.
- (b) This study has conclusively proved when musical tastes are manifested in humans.
- (c) This study has stronger conclusions than most previous studies.
- (d) This study has shown that people exposed to Eastern and Western music show the same preferences.

使用著作物:

An article by Markham Heid from the *TIME* Health website (<http://time.com/time-health/>), June 14, 2017 (accessed August 2017), with slight modifications.

An original text based on a 2008 article by Hans Eiberg et al. in the journal *Human Genetics*, Vol. 123 (2), pages 177-187.

An article by Vivian Wang from the *The Boston Globe* website (<https://www.bostonglobe.com/>), July 13, 2016 (accessed August 2017), with slight modifications.