

日本医科大学

平成31年度 入学試験問題

英語問題用紙(後期)

試験時間	90分
問題用紙	1～16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	
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氏名	
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[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。

I have always believed that the experience of intrinsic motivation is its own justification. Smelling the roses, being enthralled by how the pieces of a puzzle fit together, seeing the sunlight as it dances in the clouds, feeling the thrill of reaching a mountain summit: 1 . And one might go so far as to argue that a life devoid of such experiences is hardly a life at all.

But modern society is not very concerned about all that. Modern society has what philosopher Charles Taylor recently referred to as the malaise of (1) "instrumental reason." Everything gets evaluated in terms of its bottom-line yield—the cost-benefit ratio, so to speak. Sadly, even things that should be evaluated by other criteria, like personal relationships, seem to have come under the dark eye of instrumental reason.

"To feel alive, to be interested and engrossed in an activity, to be in a state of flow, is all well and good," some will say, "but what does it get you?" These people want results. They want "noteworthy pictures," and they don't care whether the painter is in "a high state of functioning" while creating them. They want high test scores, and they are not terribly concerned if the students feel good or are interested in school. They want profits, and they do not pay much attention to the professional or personal development of the employees.

Of course it is important to attend to the outcomes of motivation, and although intrinsic motivation is a desirable end in its own right, Ryan and I have A considerable attention to exploring the concrete consequences of being intrinsically motivated versus externally controlled. (2) Without verifying that it has concrete advantages, we would be on shaky grounds advocating its promotion in schools, homes, and offices—indeed, in society more generally. So we set out to clarify whether people, when they are intrinsically motivated, also achieve at high levels. Robert Henri hinted at the answer with his powerful intuitive observation that intrinsic motivation is in "back of every true work of art." But what does the research say?

The arena of education seemed like ripe territory for beginning this research because countless people had suggested that motivation is the key to success in education. Certainly, learning seems to be great fun for some people and quite tedious for others, and it was the whole issue of motivation for learning that got me interested in intrinsic motivation in the first place. Fortunately, the outcomes of education—learning, performance, and adjustment—can be reliably B , which is essential for doing research.

In education, grades (sometimes accompanied by other things like gold stars or dean's

lists) are the primary means of extrinsic control. They are considered incentives, and it is assumed that people will be motivated to learn so they can get good grades. (3)In one learning experiment I did with former student Carl Benware, we considered the issue of grades as a motivator. We had two groups of college students spend about three hours learning some complex material on neurophysiology—on the machinery of the brain. Half of these students were told they would be tested and graded on their learning, and the others were told they would have the opportunity to put the material to active use by teaching it to others. We expected that learning in order to be tested would feel very controlling to the students, whereas learning to put the information to active use would feel like an exciting challenge. After students had learned the material, we assessed their intrinsic motivation with a questionnaire, and we found, as expected, that those who learned in order to be tested were less intrinsically motivated.

Then we took it one step further to get at the main issue—the actual learning that had gone on. We tested both groups, even though the one group had not expected it, and the results showed that the students who learned in order to put the material to active use displayed considerably greater conceptual understanding of the material than did the students who learned in order to be tested. As the research made clear, yet again, well-intentioned people—for instance, people employing tests to motivate learning—are unwittingly defeating the desire to learn in those people they are to help.

Ryan, working with Wendy Groinick (now a faculty member at Clark University), did (4)another learning study, this time with elementary-school children. Two groups of children were asked to read short passages from grade-level textbooks. Some of the children were told that they would be tested and graded on what they read; others were just asked to read the material without any mention of a test. Those who learned the material without expecting to be tested displayed superior conceptual understanding relative to those who were expecting to be tested.

An additional, interesting piece of information was picked up in this study. The children who expected to be tested displayed greater rote memorization than those not expecting the test. It seems that when people learn with the expectation of being evaluated, they focus on memorizing facts, but they don't process the information as fully, so they don't the concepts as well. On the face of it, this suggests that the type of learning context that should be created depends on which type of learning one hopes to foster—rote memorization or conceptual understanding. But (5)there's a catch here—and a quite fascinating one—that was discovered in a final phase of this study.

Another adult visited the classrooms of these elementary-school children a week after

they had participated in the experiment. The adult introduced himself and reminded the children of their experience the week before with the woman who had given them the material to read. He then said he would like to ask them some questions about what they had read. On that test, all the children recalled less than they had the week before when they had just read the material, but that's to be expected. Stunningly, however, those who had learned expecting to be tested had forgotten much more. Their superior rote memorization was no longer in evidence a few days later. Evidently, they memorized the material for the test, and when the test was over, they pulled the plug and let it E out.

問1 1 に入れるのにふさわしい文となるように、次の英文を完成させよ。解答にあたっては、(あ)～(お)を最もふさわしい順に並べ替え、該当する記号を解答欄のカッコ内に順に記入すること。

These are () () () () () to be fully justified.

- (あ) need (い) nothing more (う) yield
(え) experiences (お) that

問2 A ～ E のそれぞれ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、同じものを2度以上用いてはならない。

attempt	carry	conduct	contrast	devote
drain	grasp	measure	remain	undergo

問3 次の英文は、下線部(1)について説明したものである。[ア]～[オ]のそれぞれに入れるのに最もふさわしい単語を(あ)～(し)からそれぞれ1つ選び、記号で答えよ。なお、同じものを2度以上用いてはならない。

Instrumental reason can be explained as a way of evaluating what we do in terms of the outcomes, with the [ア] of achieving the maximum benefit with the minimum cost. In taking a trip, for instance, people might be inclined to take the highway to get to the destination in the most [イ] manner. That would, however, keep them from experiencing the [ウ] of driving along scenic roads that would consume much more [エ]. By the “malaise of instrumental reason,” Charles Taylor expresses his [オ] with the contemporary emphasis on this way of thinking.

- | | | |
|--------------|------------------|----------------|
| (あ) bored | (い) conveniently | (う) discontent |
| (え) distance | (お) efficient | (か) excite |
| (き) favor | (く) goal | (け) object |
| (こ) pleasure | (さ) suspect | (し) time |

問4 下線部(2)を、itが指すものを明確にして和訳せよ。

問5 下線部(3)と下線部(4)において、共通して得られた結果はどのようなものか。日本語で述べよ。

問6 下線部(5)は具体的にはどのようなことを意味しているか。日本語で説明せよ。

[II] 下記の指示にしたがって英文を書け。解答用紙(記述用)に記入すること。

The text in [I] discussed the distinction between being motivated intrinsically and extrinsically. In your opinion, what can be done to improve students' intrinsic motivation in school? Write an essay in an academic style answering this question. Give specific reasons and examples to support your ideas.

(下書き用紙)

[III] 以下の設問に答えよ。

解答用紙(マークシート)に記入すること。各問の末尾に示された、
内の数字に対応する欄に解答せよ。

問1 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。 1

- a. expire
- b. litter
- c. wilderness
- d. vinegar

問2 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。 2

- a. sequence
- b. obedient
- c. sweat
- d. conceal

問3 次の各単語は、それぞれ音節が「-」で区切られている。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。 3

- a. in-sti-tute
- b. com-pe-tent
- c. mech-a-nism
- d. in-de-pend-ence

問4 次の各単語は、それぞれ音節が「-」で区切られている。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。 4

- a. at-mo-sphere
- b. e-quiv-a-lent
- c. pat-tern
- d. ge-net-i-cal-ly

問5 次の2つの英文において、に共通して入る単語をa～dから1つ選べ。 5

The substance stayed at room temperature.

This provided evidence that he committed the crime.

- a. valid
- b. convincing
- c. redundant
- d. solid

問6 次の2つの英文において、に共通して入る単語をa～dから1つ選べ。 6

After much , I have decided to refrain from using all social media.

He admired the of the moon in the lake.

- a. appearance
- b. figure
- c. reflection
- d. imagination

問7 次の2つの英文において、に共通して入る単語をa～dから1つ選べ。 **7**

This is a difficult piece of music to play, and it demands a lot of .

There is a heavy of troops in the area.

- a. practice
- b. attention
- c. concentration
- d. patience

問8 次の英文において、に入れるのにふさわしい単語はa～dのうちのどれか。意味の通る英文とするために適切なものをすべて選べ。 **8**

I find the way he stares at me .

- a. rude
- b. insult
- c. offended
- d. irritating

問9 次の英文において、に入れるのにふさわしい単語はa～dのうちのどれか。意味の通る英文とするために適切なものをすべて選べ。 **9**

The next class was canceled because the teacher influenza.

- a. had
- b. became
- c. got
- d. was

問 10 次の英文において、に入れるのにふさわしい表現はa～dのうちのどれか。意味の通る英文とするために適切なものをすべて選べ。

Do you have any idea ?

- a. about videos we should watch
- b. what videos to watch
- c. how can you choose videos to watch
- d. which videos are worth watching

[IV] 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。各問の末尾に示された、
内の数字に対応する欄に解答せよ。

Section A

In the same way that manned aircraft received much of their technological impetus from their deployment as weapons of war, so too have unmanned aircraft, or drones. Drones are unmanned flying robots which may be controlled remotely or autonomously, receiving their instructions from self-contained software or hardware combinations. They vary in size from a wingspan of a few centimeters to tens of meters.

In both the first and second world wars drones were rapidly developed for varying purposes. These included serving as target practice for ground and air-based gunners, in surveillance, and as offensive weapons carrying explosives. This pace has been maintained ever since. But the use of drones for military situations is increasingly being adapted for peaceful purposes. It is to be hoped that (1)these constructive uses will come to dominate their use in the future.

Section B

The distribution of health care around the world is notoriously uneven. Remote rural areas do not get their fair share of resources. Attempts to attract healthcare professionals to work in rural areas to redress this imbalance have been only partially successful. An alternative approach is needed.

Medical practice has been bolstered by technological advances that (2)lend themselves to rural application more readily than the redeployment of healthcare personnel. One example is the burgeoning use of diagnostic technologies, such as molecular testing. The technology is not only used for diagnosis but also to guide which therapeutic options are likely to be effective. In testing for tuberculosis, a simple DNA based test can provide both an unambiguous diagnosis and microbicidal sensitivity profile at a single stroke. This spares the patient the need to see a doctor to make the diagnosis before therapy can be initiated. And it obviates the fruitless therapeutic trial of agents that will not be effective.

The advent of cell phone networks has significantly aided the way results are transmitted from the laboratory to the clinic. But this is obviously not applicable to physically transporting samples. Drones are potentially a solution to this logistical problem. A cargo-carrying drone service could also be used to support remote areas with medical

supplies such as testing materials and therapeutic agents including pharmaceuticals, blood, sera and vaccines.

Through several studies we have concluded that DNA samples of sputum are arguably the perfect cargo for delivery drones. This is because they are lightweight, occupy very little space and have zero commercial value. This means they will not be a target for would-be thieves. ⁽³⁾They are also mission-critical for effective health care and are readily disinfected to remove biohazards while preserving analytical integrity. DNA is also sufficiently ⁽⁴⁾robust to resist degradation by physical or chemical treatments that inactivate pathogens.

Relying on new technology for effective health care in remote areas is still critically reliant on effective logistic support to transport samples to the nearest laboratory capable of performing the test, and to transmit the result back to the clinic.

Section C

There are two alternatives to drones: land-based transport in the form of motorbikes or cars and air-based transport such as helicopters. Air transport by helicopter is very expensive and dangerous while land-based transport is vulnerable to the state of the roads, which are frequently impassable in developing countries. Using cars also means that longer distances must be covered, compared to a straight line route enabled by air.

Section D

In the developed world civil aviation authorities are imposing increasingly arduous legislative restrictions on drones. These are considered necessary to reduce the risk of accidents and the use of drones for nefarious purposes. In these countries they are mainly used for military purposes. But there are many examples of peaceful cargo-carrying drones that are used for a host of disparate purposes. The developing world is more in need of drones as a ⁽⁵⁾viable means of leapfrogging over infrastructural inadequacies. This might narrow the gap between developed and developing worlds.

問1 Choose ALL of the uses the author refers to in the text for *these constructive uses*, marked (1) in the text. 11

- a. flying drones in war zones for enemy tracking
- b. searching for survivors in disaster areas
- c. transporting samples for testing between the laboratory and the clinic
- d. delivering medications to isolated villages

問2 Which of the following is the closest in meaning to the phrase *lend themselves to*, marked (2) in the text? 12

- a. have an effect on
- b. are suitable for
- c. focus on
- d. are borrowed for

問3 What does the word *they*, marked (3) in the text, refer to? 13

- a. would-be thieves
- b. delivery drones
- c. DNA samples
- d. several studies

問4 Which of the following is the closest in meaning to the word *robust*, marked (4) in the text? 14

- a. tiny
- b. complex
- c. sensitive
- d. sturdy

問 5 Which of the following is the closest in meaning to the word *viable*, marked (5) in the text? 15

- a. capable of working successfully
- b. able to be implemented easily
- c. simple and cost-effective
- d. technologically advanced

問 6 Which advantages of helicopters for medical transport are mentioned by the author? Choose ALL correct answers. 16

- a. Helicopters can travel at higher speeds than cars or motorcycles.
- b. Helicopters can travel to a location by the shortest path.
- c. Helicopters are not affected by problems that close roads.
- d. Helicopters are more expensive than cars and motorcycles.

問 7 What is the main topic of Section C? 17

- a. alternatives that could replace drones for medical use
- b. difficulties of transporting medical supplies by car
- c. the advantages of using drones rather than helicopters
- d. problems with conventional methods of medical transportation

問 8 Choose ALL of the statements that are true about drones, according to the text. 18

- a. The word *drone* refers to any aerial vehicle that flies without an on-board pilot.
- b. Drones have been in use since the first half of the twentieth century.
- c. Drone technology was originally reserved for non-military applications.
- d. Drones can be as large as conventional aircraft.

問9 Choose ALL of the statements that are stated in the text. 19

- a. Some countries are creating laws to restrict the use of drones to minimize accidents and other problems.
- b. The use of drones for military purposes is increasingly being criticized on ethical grounds.
- c. People living in rural areas do not have as much access to health care as those in urban areas.
- d. There are not enough medical personnel who are willing to work in rural areas.

問10 Which one of the following best expresses the main topic of the text? 20

- a. how the use of drones is regulated by governmental policies
- b. how drones are used for both military and non-military purposes
- c. how drones can improve healthcare delivery in remote areas
- d. how drones have been developed over history

使用著作物:

Adapted from a book by Edward L. Deci, *Why We Do What We Do*, published in 1996 by Penguin Books.

Adapted from an article by Barry Mendelow from *The Conversation* website (<https://www.theconversation.com>), November 6, 2015, (accessed October, 2018).