九州大学 医学 菌学部

令和2年度入学試験問題

(注意事項)

- 1. 問題冊子は指示があるまで開かないこと。
- 2. 問題冊子は 15 ページ, 解答紙は 5 枚あります。 「始め」 の合図があったらそれ ぞれを確認すること。
- 3. 解答紙それぞれの2箇所に受験番号を記入すること。
- 4. 解答はすべて解答紙の所定の欄に記入すること。
- 5. この教科は 200 点満点です。なお、共創学部については 400 点満点に、文学部については 150 点満点に、経済学部経済工学科については 300 点満点に、芸術工学部及び農学部については 250 点満点に換算します。

英語コミュニケーション
英語 I ・ II英語 表現 I ・ II

[1] 次の英文を読み、設問に答えなさい。(51点)

It was Alex Osborn, an advertising executive in the 1940s and '50s, who invented the term *brainstorming**. He passionately believed in the ability of teams to generate brilliant ideas, provided they follow four rules: Share any idea that comes to mind; build on the ideas of others; avoid criticism; and, most notably, strive for quantity, not quality. Subsequent scientific research confirmed Osborn's instincts: Groups who follow his guidelines show more creativity than those who don't. For example, in one study, brainstorming groups given quantity goals generated both more ideas (an average of 29.88) and significantly higher-quality ideas (20.35) than those given a quality goal alone (averages of 14.24 and 10.5).

My colleagues, Elizabeth Ruth Wilson and Brian Lucas, and I decided to explore whether people could also be prepared for better brainstorming before the idea generation even starts. In our first experiment, we asked one set of participants to describe a time when they had felt embarrassed in the previous six months; we asked a second group to describe a time when they had felt proud. We then asked each individual to spend 10 minutes thinking of new uses for a paper clip*. We hypothesized that—just as quantity goals paradoxically yield better-quality ideas—telling an embarrassing story would lead people to drop their inhibitions and get more creative.

We scored our study subjects' output using two criteria: fluency (the volume of ideas they generated) and flexibility (how many different kinds of ideas they came up with). For example, one participant suggested an earring, necklace, ring, and bracelet, while another suggested an earring, wound stitch, artwork, and screwdriver. Both had four ideas, but the second person suggested a broader range of them, displaying more flexibility. On average, the embarrassing-stories group well outperformed their counterparts, scoring 7.4 for fluency and 5.5 for flexibility, whereas the prideful group scored 5.9 and 4.6.

In our second study, we investigated how the same dynamic might play out in a group. We suspected that the effects might be magnified if the narrating of accomplishments caused people to worry more about hierarchy and social comparisons, quelling creativity, and if a discussion of foibles helped people open up and take more risks, boosting brainstorming efficiency.

We randomly assigned 93 managers from a range of companies and industries to three-person teams and gave them one of two group "introduction" and "warm-up" exercises. Half the groups were told to share embarrassing stories; half talked about moments when they had felt pride. The episodes had to involve them personally and have happened in the previous six months.

My colleagues and I carefully watched these conversations develop. The people told to embarrass themselves were initially surprised and even uneasy. But inevitably someone would jump in ("OK, I'll go first..."), and within minutes the three people in a group were laughing loudly. The people told to boast had, by contrast, no trouble starting their conversations and appeared more composed. However, there was little laughter and only a few polite head nods on the teams.

After 10 minutes, we introduced the brainstorming challenge—this time, to generate as many unusual uses for a cardboard box as possible, also in 10 minutes. Using the same scoring criteria—fluency and flexibility—we found that the "embarrassment" teams generated 26% more ideas ranging over 15% more use categories than their counterparts.

Being open led to greater creativity. Thus, we propose a new rule for brainstorming sessions: Tell a self-embarrassing story before you start. As uncomfortable as this may seem, especially among colleagues you would typically want to impress, the result will be a broader range of creative ideas, which will surely impress them even more.

Notes:

brainstorming*: an activity or method of gathering numerous ideas about a certain topic to make creative suggestions

paper clip*: a curved piece of metal which is used to bind several sheets of paper together

- 問 1. 下線部(1)の研究の結果を日本語で述べなさい。
- 問 2. 下線部(a)と下線部(b)の語群は両者ともに、該当する実験における被験者の 回答例として挙げられている。何の回答例であるか。また、この2つの語群 の性質の違いは何であると述べられているか、日本語で簡潔に答えなさい。
- 問 3. 下線部(2)を, "counterparts" が具体的に表すものを明らかにして、日本語に訳しなさい。
- 問 4. 下線部(ア)、(イ)、(ウ)、(エ)の語と文脈上最も近い意味の語をA~Dからそれぞれ1つずつ選び、その記号を解答欄に書きなさい。

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B. excitement

C. shyness

D. terror

(1) A. challenging

B. enhancing

C. sparking

D. suppressing

(ウ) A. achievements

B. advantages

C. complexities

D. weaknesses

(I) A. calm

B. concerned

C. excited

D. nervous

- 問 5. 下線部(3)を日本語に訳しなさい。
- **問 6.** 次のA~Dのうち、本文の内容に<u>合わない</u>ものを1つ選び、その記号を解 答欄に書きなさい。
 - A. Alex Osborn believes that what is important in generating brilliant ideas is to try to produce as many ideas as possible.
 - B. In the first experiment the author and her colleagues conducted, the results turned out to be compatible with their initial hypothesis.
 - C. The author argues that getting people to tell their embarrassing stories beforehand would be effective in brainstorming both in terms of fluency and flexibility.
 - D. The author concludes by saying that people are encouraged to tell their personal stories in boastful ways because it would generate more brilliant ideas.

[2] 次の英文は2019年5月18日に起こる天体現象に関して、同年それ以前に発行された記事である。この英文を読み、設問に答えなさい。(41点)

On May 18, a full moon will appear in the night sky. This year, May's full moon, known as the "full flower moon," will also be—according to one definition—a "blue moon"—a celestial event that happens once every two to three years.

But what is a blue moon? And will May's full moon be one? There are two definitions of what a blue moon is. Under one, the full flower moon is not a blue moon. Under the other it is. Neither involves the moon actually turning blue.

We tend to think of full moons occurring once per month. Each month's full moon is also given a traditional name depending on what was happening at that time of year. For example, May's full flower moon is named so because it is the time of year when flowers come into bloom, according to the *Farmers' Almanac**. Next month's full moon is known as the full strawberry moon because June is the time when strawberries are harvested.

However, sometimes one month has two full moons. This is because the phases of the moon take 29.5 days to complete. This means that there are 354 days for 12 full cycles, so once every two to three years, there is a 13th full moon in a year, therefore the second full moon in a month. Because this moon does not fit into the traditional moon name system of old, it is known as a blue moon. This is one definition of a blue moon.

The other definition is the third full moon in an astronomical season that contains four full moons instead of three. Astronomical seasons start and end with spring and fall equinoxes* and summer and winter solstices*. The spring equinox 2019 started on March 20. This year the spring astronomical season contains four full moons, with May's full flower moon being the third—hence being a blue moon.

As well as the full moon, May 18 will see a number of other astronomical bodies appearing in the sky. "By the morning of the full moon on May 18, 2019, as morning twilight begins, Jupiter will appear in the south-southwest about 23 degrees above the horizon and Saturn will appear in the south about 30 degrees above the horizon," NASA said in a statement. "Venus will be rising about 7 minutes after morning twilight begins but should be visible low in the east-northeast until about 30 minutes before sunrise. Mercury will not be visible, lost in the glow of the Sun."

May 18 will also see a Near Earth Object called 2012 KT12 make its close approach. The object, which measures between 48 and 107 feet in size, is set to pass Earth at 1.0 and 7.5 lunar distances, and will be traveling at a speed of 8,835 miles per hour, NASA said. A lunar distance is the moon's average distance from Earth.

The next full moon will take place on June 17, at the end of the spring astronomical season. The next season will start on June 21 with the summer solstice.

Notes:

Farmers' Almanac*: an annual North American booklet providing long-range weather predictions

equinoxes*: times or dates when day and night are of equal length

solstices*: the two times in the year at which the sun reaches its highest or lowest point in the sky at midday, marked by the longest and shortest days

- **問 1.** "May's full moon" はなぜ下線部(1)のように呼ばれるのか、本文に即して日本語で述べなさい。
- 問 2. 下線部(2)に関して、これに該当する定義の具体的な内容を、本文に即して 日本語で述べなさい。
- **問 3.** 下線部(3)に関して、なぜそのようなことが起こるのか、本文に即して日本 語で述べなさい。
- **問 4.** 下線部(4)に関して、正しい記述をA~Dから1つ選び、その記号を解答欄に書きなさい。
 - A. Mercury will be seen in the daytime on May 18, 2019.
 - B. 2012 KT12 can pass as close as a lunar distance from Earth on May 18, 2019.
 - C. Jupiter will appear higher in the sky than Saturn on May 18, 2019.
 - D. The sunlight will be blocked by an astronomical body on May 18, 2019.
- 問 5. 下線部(5)を日本語に訳しなさい。

〔3〕 Read the following passage and answer the questions below. (51 点)

It's a familiar complaint. Parents lament that technology is turning good, clear handwriting into a lost art form for their kids. In response, lawmakers in state after state—particularly in the South—are making time in classrooms to keep the graceful loops of cursive writing* alive for the next generation. Alabama passed a law requiring it in 2016. That same year, Louisiana passed its own cursive law. Others like Arkansas, Virginia, California, Florida and North Carolina, have similar laws. Texas is the latest state in which educators are pushing to bring back cursive writing in elementary schools. Each state's curriculum differs in subtle ways. The guideline described in the Texas Education Code, for instance, includes requirements for instruction to begin with teaching second-graders how to form cursive letters with the "appropriate strokes when connecting letters." Third-graders would focus on writing complete words, thoughts, and answers to questions, and fourth-graders would need to be able to complete their assignments outright in cursive.

Anne Trubek, the author of "The History and Uncertain Future of Handwriting," told CNN* that efforts to emphasize cursive have been ongoing "for years." And debates about whether we should preserve handwriting in general are not strictly modern phenomena, as various periods in history featured disagreements between history featured disagreements between historical traditionalists and those who favored new writing and communication technologies. In ancient Greece, Socrates had strongly opposed writing, a form of communication perceived new at that time, Trubek noted. The philosopher preferred the Greeks' oral tradition and felt those who didn't write things down would preserve a "better memory," she said. Later, religious scholars in the Middle Ages protested against the invention of the printing press, which threatened to make their beautiful, hand-copied texts out of date. As inventions like the printing press and the Internet throw humanity forward, "there will be a loss," Trubek said.

In the history of handwriting, we're in a unique place in which most Americans alive learned cursive writing, and efforts to spread cursive again among a new generation of youth represent a new "reaction" to ongoing change, she said. Today, debates in favor of cursive take the form of "tradition strangely joined with patriotism," she said, noting that some lawmakers complained that if students didn't learn how to write in cursive, then they wouldn't be able to read the Declaration of Independence. Trubek, who is also a professor at Oberlin College, said she herself can't read the original flowing script of the Declaration of Independence, and there was nothing wrong with students reading the nation's founding documents in typed versions with fonts readable to modern eyes.

Trubek also said students didn't necessarily need cursive to come up with their own signature that gives them their "individuality" and "uniqueness" in signing legal forms either. She said technologies like the chips in credit cards were more effective in preventing crimes than pen-and-paper signatures that can be faked. "I don't think children should be required to learn cursive if they don't want to," Trubek said.

But, still, Trubek said being careful and thoughtful has its virtues. "It's a fine motor skill," and taking time to skillfully perfect the art has positive effects on students' cognitive development. "Handwriting is slower," she said, "And sometimes you just want to slow down."

Notes:

cursive writing*: a style of handwriting where the characters written in sequence are joined. An example is given below:

Cursive writing

- CNN* (Cable News Network): a broadcasting company in the United States which specializes in news delivery
- Q 1. Explain in Japanese what a "familiar complaint" in underlined part (1) refers to.
- **Q** 2. Regarding underlined part (2), summarize <u>in Japanese</u> the cursive writing curriculum for second-graders in Texas.
- Q 3. Give two examples of "historical traditionalists" in underlined part (3), and explain why each of them was reluctant to accept a new form of communication. Answer these questions in Japanese.
- **Q** 4. Regarding underlined part (4), identify the specific debate related to patriotism and describe it in Japanese.
- Q 5. Choose the one statement which best summarizes Trubek's opinion. Write the letter (A, B, C, or D) of your choice.
 - A. The lack of cursive writing skill is very serious because American students need at least to learn how to read the US founding documents.
 - B. Historical arguments have stressed the importance of inventing and teaching a new handwriting skill to young children.
 - C. It is not necessary to require all the students to learn cursive writing, while acquiring it can have some positive impacts.
 - D. Signatures in cursive can give more authenticity to legal forms than advanced technologies such as credit card chips.

[4] 次の英文の説明と指示に従い,英語の文章を書きなさい。(30点)

Most Japanese high school students have to choose their course of study either from humanities ("bunkei") or science ("rikei") in the middle of their high school education. One of the reasons is to help students prepare for university entrance examinations and reduce their burden of subjects studied. At the same time, this narrows the range of choices for their future careers at a very early stage. Write your opinion on this current practice in a well-organized paragraph. It should be approximately 100 English words long, including specific reasons to support your argument.

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♦M10 (363—180)

[5] 次の文章の下線部(1), (2)を英語に訳しなさい。(27点)

インターネットと検索エンジンのおかげで、あるトピックに関してどんな論文がすでに発表されているのかを調べるのは、格段に簡単になった。そこで、何を始めるにもまずは既存研究を調べましょう、となるのだが、下手をするとすぐに「こんなにたくさんの研究がされている。自分たちに出る幕などありません」という語流たる気分になってしまう。

研究で楽しいのはなんと言っても問題について自分で考え、解決に向けて自分で試行錯誤する時間、そして何かが解決できた瞬間である。そこで、あまり真面目に既存研究調査などせずにそれを始めた場合どうなるか?おそらく多くの場合、苦労をして考えついたアイデアや作り上げたソフトウェアに似た先行研究があるということを後から思い知ることになるのだろう。だがそれは、無駄な時間だったのだろうか?

一人の人間が情報を消費することに一生を費やしても、決して吸収しきれない(2) 情報があふれている。徹底調査をし、ひたすら再発明をしないことに向けて最適化すべきなのか、それとも、再発明の危険があってもまずは自分で脳を全開にすること、それ自身を目的関数にしてよいのか?真面目に考えてもよい時になっている気がする。