令和７年度・個別学力検査

英　　語（前）

注　意　事　項

1. 試験開始の合図があるまで，この問題冊子を開いてはいけません。
2. この冊子は19ページあります。
3. 試験開始後，落丁・乱丁・印刷不鮮明の箇所があれば申し出なさい。
4. 試験開始後，すべての解答用紙に氏名（カタカナ）及び受験番号を記入しなさい。受験番号が正しく記入されていない場合は，採点できないことがあります。また，氏名（カタカナ）及び受験番号以外の文字，数字などは，絶対に記入してはいけません。
5. 解答はすべて解答用紙に，それぞれの問題の指示にしたがって記入しなさい。
6. 解答は特に指示のない限り日本語で書きなさい。
7. この冊子のどのページも切り離してはいけません。ただし，余白等は適宜利用してかまいません。
8. 試験終了後，問題冊子は持ち帰りなさい。

問題 I 次の文章を読み，下の問いに答えなさい。なお，＊のついている語句については，文末の(注)を参照しなさい。

Creativity looks different from person to person. And even within one brain, there are different routes to a creative spark, Kounios explained. One involves (A) cognitive* scientists call "System 1" (also called "Type 1") processes: quick, unconscious thoughts — aha moments — that burst into* consciousness. A second route involves "System 2" processes: thinking that is slow, deliberate, and conscious. "Creativity can use one or the other or a combination of the two," he said. "You might use Type 1 thinking to generate ideas and Type 2 to critique* and refine them."

(B) pathway a person uses might depend, in part, on their expertise. Kounios and his colleagues used electroencephalography* (EEG) to examine what was happening in jazz musicians' brains as they improvised* on the piano. Then skilled jazz instructors rated those improvisations* for creativity, and the researchers compared each musician's most creative compositions. They found that for highly experienced musicians, the mechanisms used to generate creative ideas were largely automatic and unconscious, and they came from the left posterior* part of the brain. Less-experienced pianists drew on more analytical*, deliberative* brain processes in the right frontal region to devise creative melodies, as Kounios and colleagues described in a special issue of *NeuroImage* on the neuroscience* of creativity. "It seems there are at least two pathways to get from (C) you are to a creative idea," he said.

Coming up with an idea is only one part of the creative process. A painter needs to translate their vision to canvas. An inventor has to tinker* with their concept to make a prototype* that actually works. Still, the aha moment is an undeniably* important component of the creative process. And science is beginning to illuminate those "lightbulb* moments."

Kounios examined the relationship between creative insight and the brain's

reward system by asking participants to solve anagrams* in the lab*. In people who were highly sensitive to rewards, a creative insight led to a burst of brain activity in the orbitofrontal cortex*, the area of the brain that responds to basic pleasures like delicious food or addictive drugs. That neural reward may explain, from an evolutionary standpoint, (D) humans seem driven to create, he said. "(ア)[take / wired / thoughts / seem / pleasure / we / to / in / creative]. There are neural* rewards for thinking in a creative fashion, and that may be adaptive* for our species."

The rush you get from an aha moment might also signal that you're onto something good, Schooler said. He and his colleagues studied these flashes of insight among creative writers and physicists. They surveyed the participants daily for two weeks, asking them to note their creative ideas and (E) they occurred. Participants reported that (イ)[ideas / the day / mind-wandering / happened / the most / about a fifth of / they were / important / of / when] and not working on a task at (あ). "These solutions were more likely to be associated with an aha moment and often overcoming an impasse* of some sort," Schooler said.

Six months later, the participants revisited* those ideas and rated them for creative importance. This time, they rated their previous ideas as creative, but less important than they'd initially thought. That suggests that the spark of a eureka(1) moment may not be a reliable clue that an idea has legs. "It seems like the aha experience may be a visceral* marker of an important idea. But the aha experience can also inflate* the meaningfulness of an idea that doesn't have merit," Schooler said. "We have to be careful of false ahas."

出典：Monitor on psychology, vol. 53 (3), 46–47 (一部改変)

(注)

cognitive：認知の

burst into：(ある状態)に突然なる

critique：批評する

electroencephalography：脳波記録検査法

improvise：即興で演奏する

improvisations：即興(演奏)

posterior：後部の

analytical：分析的な

deliberative：熟慮した，慎重な

neuroscience：神経科学

tinker：いじる

prototype：プロトタイプ　原型

undeniably：まぎれもなく

lightbulb：ひらめき

anagrams：アナグラム，字謎，つづり換えゲーム

lab：研究室

the orbitofrontal cortex：眼窩前頭皮質

neural：神経系の

adaptive：適応性のある

impasse：行き詰まり，難局

revisit：再び訪れる

visceral：直感的な

inflate：膨張させる

問 1　空欄(　A　)～(　E　)に入る文脈上最も適切な語句を下記の中から選び，大文字・小文字を文中に即した形で答えなさい。ただし，各語句は1回のみ使用できる。

what　　when　　where　　why　　which

問 2　下線部(ア)(イ)の[　　]内を文意に合うように，適切な語順に並べ替えなさい。なお大文字・小文字も文に即した形で書きなさい。

問 3　空欄(　あ　)に入る文脈上最も適切な身体に関する単語を答えなさい。

問 4　第1段落で述べられている2つのシステム(System 1, System 2)について，それぞれどのようなものか，日本語で20字以内で説明しなさい。

問 5　紹介されている研究結果から考えられる正しい組み合わせを，次の選択肢からすべて選び，記号で答えなさい。

(a)　作家：Type 1，物理学者：Type 2

(b)　経験少ないピアニスト：Type 1，経験豊富なジャズ音楽家：Type 2

(c)　抽象画家：Type 1，具象画家：Type 2

(d)　経験豊富な音楽家：Type 1，経験少ないピアニスト：Type 2

問 6　進化の観点から説明を試みている研究では，実験室で研究協力者の脳が創造的活動に反応した部位は，たとえばヒトの脳が何に対して反応する部位であると述べているか，その部分を本文から8語で抜き出しなさい。

問 7　下線部(1)が示している内容に最も近い単語を，次の選択肢から1つ選び，記号で答えなさい。

(a) reward　(b) aha　(c) pleasure　(d) burst　(e) working

問 8　本文の内容と照らし合わせ，最も適切なものを，次の選択肢から1つ選び，番号で答えなさい。

(1)　発明家の場合，創造的な活動においてアイデアのひらめきがすべてである。

(2)　創造的な活動には神経系の報酬があり，それは人類にとって有益かもしれない。

(3)　Kouniosらによると，脳内において創造的なアイデアを得るプロセスは少なくとも2つあり，それらは同じ脳部位が関係していると考えられる。

(4)　実験の参加者は，ひらめいたアイデアをあとでやはり重要と感じた。

問題Ⅱ 次の文章を読み，下の問いに答えなさい。なお，＊のついている語句については，文末の(注)を参照しなさい。

When Paul Zimmer-Harwood volunteered to be intentionally* infected with SARS-CoV-2*, he wasn't sure what to expect. He was ready for a repeat of his first brush with COVID-19*, through a naturally acquired infection that gave him influenza-like* symptoms. But he hoped his immunity* would help him feel well enough to use the indoor bicycle trainer that he had brought into quarantine*.

It turned out that Zimmer-Harwood, a PhD* student at University of Oxford, UK, had nothing to worry about. Neither he nor any of the 35 other people who participated in the 'challenge*' trial* actually got COVID-19.

(A)

The study's results, published on 1 May in Lancet Microbe*, raise questions about the usefulness of COVID-19 challenge trials for testing vaccines*, drugs and other therapeutics*. "If you can't get people infected, then you can't test those things," says Tom Peacock, a virologist* at Imperial College London. Viral* strains* used in challenge trials take many months to produce, making it impossible to match emerging circulating variants* that can overcome high levels of existing immunity in populations. (1)

(B)

Researchers use challenge trials to understand infections and quickly test vaccines and therapies. In March 2021, after months of ethical debate, UK researchers launched the world's first COVID-19 challenge trial. The study identified a minuscule* dose of the SARS-CoV-2 strain that circulated in the early days of the pandemic* that could infect about half of the participants, who had not previously been infected with the virus (at that time, vaccines weren't yet widely available).

In parallel, a team led by Helen McShane, an infectious-disease researcher at Oxford, launched a second SARS-CoV-2 challenge study in people — including Zimmer-Harwood — who had recovered from naturally caught SARS-CoV-2 infections, caused by a range of variants. The trial later enrolled participants who had also been vaccinated.

(2) The first participants got the same tiny dose of the 'ancestral*' SARS-CoV-2 strain as did those in the first trial. When nobody developed a sustained infection, the researchers increased the dose by more and more in subsequent groups of participants, until they reached a level 10, 000 times the initial dose. A few volunteers developed short-lived* infections, but these quickly vanished.

"We were quite surprised," says Susan Jackson, a study clinician* at Oxford and co-author* of the latest study. "Moving forward, if you want a COVID challenge study, you're going to have to find a dose that infects people."

Despite their immunity to the ancestral strains, nearly 40% of the participants experienced an Omicron* infection after being released from quarantine by December 2022, and one even got it twice.

(C)

An ongoing* COVID-19 challenge trial at Imperial College London, in which participants have been exposed to the Delta* SARS-CoV-2 variant, has also encountered problems with infecting participants reliably, says Christopher Chiu, an immunologist* and infectious-disease physician at Imperial who is leading that trial and was involved in the other challenge trials. Some participants have experienced infections, but probably not enough for a study testing whether a vaccine works, adds Chiu.

"We need a challenge strain that's more representative of what's circulating in the community," says Anna Durbin, a vaccine scientist at Johns Hopkins University School of Medicine in Baltimore, Maryland, who was a member of the board* that oversaw* the safety of the latest 'reinfection*' trial.

Viral strains used in challenge trials are produced under stringent* conditions, a process that can take six months or longer, say scientists, making it impossible to match circulating variants perfectly. McShane and Chiu are readying a challenge trial using the BA.5 Omicron subvariant* that emerged in 2022.

(D)

Researchers are looking at other ways to give people COVID-19. Jackson says that an even higher SARS-CoV-2 dose might be needed — one similar to doses used in influenza* challenge trials, in which participants have substantial immunity. Another method could be giving participants multiple doses. Chiu says that his team is exploring the possibility of screening potential participants to identify those with low levels of immune protection against the BA.5 variant and any future challenge strains.

(E)

Chiu is leading a consortium* that in March was awarded US$57 million by the European Union and CEPI, the Coalition for Epidemic Preparedness* Innovations in Oslo, to use challenge trials to test inhaled* and intranasal* COVID-19 vaccines that might also block transmission. He's hopeful that such changes to trial protocols* will do the trick*. "What you really want is a model that replicates* a genuine infection and ideally one that cause some symptoms," he adds.

Zimmer-Harwood, who also works for a non-profit* organization that advocates for challenge trials and their participants, says he would welcome changes that make COVID-19 challenge trials more useful to researchers — even if that means a bit less time on the bicycle trainer.

(3)

出典：Nature 2024 629: 269

(注)

intentionally：意図的に

SARS-CoV-2：新型コロナウイルス

COVID-19：新型コロナウイルス感染症

influenza-like：インフルエンザのような

immunity：免疫

quarantine：(感染予防のための)隔離室

PhD：博士課程の

challenge：実際に投与する

trial：臨床試験

Lancet Microbe：Lancet Microbe 誌(学術雑誌の1つ)

vaccine：ワクチン

therapeutics：治療法

virologist：ウイルス学者

viral：ウイルスの

strain：系統

variant：変異株

minuscule：非常に少ない

pandemic：パンデミック，世界的流行病

ancestral：祖先の

short-lived：一時的な

clinician：臨床医

co-author：共著者

Omicron：Omicron 株(新型コロナウイルスの変異株の1つ)

ongoing：進行中の

Delta：Delta 株(新型コロナウイルスの変異株の1つ)

immunologist：免疫学者

board：委員会

oversee：監督する

reinfection：再感染

stringent：厳密な

subvariant：亜変異株(変異株のさらに細かい分類)

influenza：インフルエンザ

consortium：団体，共同体

preparedness：準備(のできていること)

inhale：吸入する

intranasal：鼻腔内の

protocol：実施要綱

do the trick：うまくいく

replicate：再現する

non-profit：非営利的な

問 1　下線部(1)と最も類似した内容を述べている 1 文を文章中から探し，その文を和訳しなさい。

問 2　下線部(2)を和訳しなさい。

問 3　次の小見出しを挿入する場合，最も適切と考えられる段落の間を(A)～(E)の中で 1 つ選びなさい。

(小見出し)　Raising doses

問 4　今後の研究において，意図的に新型コロナウイルス感染症を発症させるために取りうる 3 つのアプローチを，それぞれ 30 文字以内で説明しなさい。本文に書かれている内容を解答すること。

問 5　下記の選択肢の中で本文の内容に最もよく一致するものを 1 つ選び，記号で答えなさい。

(a) Paul Zimmer-Harwood は，自身の免疫力が高まることを期待して，意図的に SARS-CoV-2 に感染する臨床研究への参加を志願した。

(b) パンデミックの発生後，時間が経つほど新型コロナウイルスに対する免疫を獲得した参加者が増え，意図的な感染を起こす臨床研究が難しくなることが，こういった研究を開始する前から想定されていた。

(c) Delta 変異株を用いた臨床研究では，一部の参加者が新型コロナウイルス感染症を発症したが，ワクチンの効果を検証することは困難と考えられた。

(d) Christopher Chiu は，ワクチンの接種方法を吸入や鼻腔内投与に変更することで，意図的に新型コロナウイルス感染症を発症させやすくなると考えている。

(e) 新型コロナウイルスの感染力が高まり，ほとんどの人が感染を経験するようになったので，意図的にウイルスを感染させる臨床試験の意義は薄れつつある。

問 6　下記の選択肢の中で本文の内容に最もよく一致するものを 1 つ選び，記号で答えなさい。

(a) In a clinical trial, a total of 35 participants including Zimmer-Harwood developed COVID-19 caused by intentional administration of SARS-CoV-2.

(b) The clinical trial in which Zimmer-Harwood participated assumed participants had never been infected with SARS-CoV-2 before.

(c) Challenge trials using various SARS-CoV-2 strains enabled successful evaluation of newly developed vaccines.

(d) Immunity to the ancestral SARS-CoV-2 strain warrants protection from the Omicron variant.

(e) The world's first challenge trial successfully determined the dose of SARS-CoV-2 that could infect approximately half of the participants to develop symptoms related to COVID-19.

問 7　下線部(3)の表現が意味することに最もよく一致するものを 1 つ選び，記号で答えなさい。

(a)　たとえ，より重症な感染を経験することになったとしても。

(b)　たとえ隔離室に自転車型運動装置を持ち込むことが制限されたとしても。

(c)　たとえ自転車型運動装置を他の参加者や研究者に貸し出すことになったとしても。

(d)　たとえ隔離期間が短く制限されることになったとしても。

(e)　たとえ何らかの後遺症をしばらく抱えることになったとしても。

問題Ⅲ 次の文章を読み，下の問いに答えなさい。なお，＊のついている語句については，文末の(注)を参照しなさい。

The airline industry presents a paradox. For the last 50 years it has been characterized by continued and rapid growth in demand (A) its services. Yet it has remained only marginally* profitable.

Inevitably growth was much faster in the 1950s and 1960s when aviation was a new industry than it is today when it is reaching maturity. But growth rates are still impressive. In the 1970s the annual growth in world passenger traffic was close to 10 per cent*. This meant that passenger demand, and the airlines with it, (ア) in size every seven years or so. In the following (B) growth declined to around 6 per cent annually* and during the 1990s growth was down slightly at around 5.2 per cent on average each year. The more turbulent* early years of the new millennium saw a drop in traffic in 2001 with little growth in the next two years. This was compensated for by a 13 per cent jump in 2004 followed by lower but reasonable growth rates in 2004 to 2008. Over the eight-year period after 2000, annual traffic growth, passenger plus freight, averaged a little below 4.0 per cent. These figures suggest a long-term decline in the rate of growth of air transport. But in absolute terms, because of the much higher base a 4.0 per cent jump in recent years represents a much greater surge* in demand than a 10 per cent annual growth 30 years ago. Most recent long-term forecasts for the (C) 20 years indicate growth at just above or below the 5 per cent mark.

The airline industry appears to be both cyclical* and strongly influenced by external factors. This inevitably means that growth rates can fluctuate* wildly from year (D) year. Nevertheless the underlying trend has been one of consistently* good growth in demand but at a declining rate. Most industries or businesses faced with continued and high growth of demand for their products or services would be basking* in substantial profits. Not so the

airlines. This is the paradox.

The financial performance of the world's airlines taken as a whole has been very marginal*, even in the years when the industry was highly regulated and largely protected from internal competition. The traditional measure of profitability*, namely the rate of return on assets employed, cannot be applied easily to the airline industry as a whole. This is because of the difficulty of estimating real asset values for airlines with varied depreciation* policies, using varying proportions of leased equipment and often receiving direct or indirect government subsidy in a variety of forms. An alternative measure of profitability commonly used among airlines is the operating ratio, which is the annual operating profit or loss or the net* profit or loss, after tax, expressed as a percentage of the total annual revenue. This is calculated annually for the world's airlines by the International Civil Aviation Organization* (ICAO). The net operating ratio is (イ) diagrammatically* in Figure 1.1.(1) This shows the net profit after payment of interest(2) and any other non-operating items.

The cyclical nature of the airline industry's financial performance is clearly evident. Four to five years of poor or bad performance are generally followed by an upturn* and five or six years of improving results. However, even in the good years profit margins are low. The profits after interest and tax rarely achieve even 2 per cent of revenues. These are of course global figures and mask the fact that some airlines such (E) Singapore Airlines*, Cathay Pacific* or British Airways* have frequently produced much better profit margins. Nevertheless, such low average profit margins are (ウ) for a dynamic and high growth industry.

出典：Rigas Doganis, *Flying Off Course* (*Fourth edition*), Routledge, 2010

(注)

marginally：ほんのわずかばかり

per cent：パーセント(percent)

annually：毎年

turbulent：激動の

surge：急上昇

cyclical：周期性の

fluctuate：変動する

consistently：首尾一貫して

bask：(恩恵に)浴する

marginal：わずかな

profitability：利益

depreciation：減価償却

net：正味の

International Civil Aviation Organization：国際民間航空機関

diagrammatically：図表で

upturn：好転

Singapore Airlines：シンガポール航空

Cathay Pacific：キャセイパシフィック航空

British Airways：ブリティッシュ・エアウェイズ

問 1　空欄(　A　)～(　E　)に入る最も適切な単語を下記の語群から選びなさい。各単語は1回のみ使用できる。

(語　群)　as, decade, for, to, next

問 2　空欄(　ア　)に当てはまる最も適切な単語を下記から選び，番号で答えなさい。

①　half　　②　equaled　　③　doubled　　④　supplied

問 3　空欄(　イ　)に当てはまる最も適切な単語を下記から選び，番号で答えなさい。

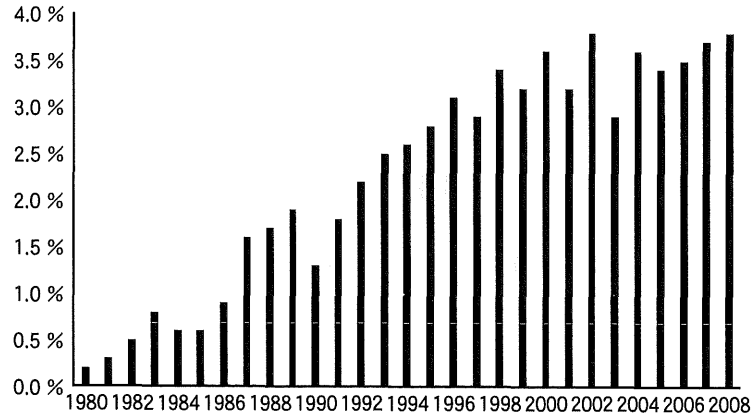
① show　② shows　③ shown　④ showing

問 4　空欄(　ウ　)に当てはまる最も適切な単語を下記から選び，番号で答えなさい。

① rich　② poor　③ reasonable　④ vague　⑤ obvious

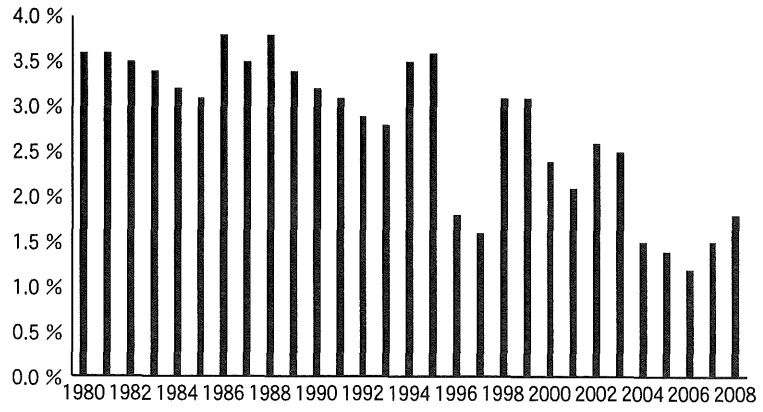
問 5　下線部(1)の Figure 1.1 を表すものとして，最も適切なものを下記から選び，番号で答えなさい。

①



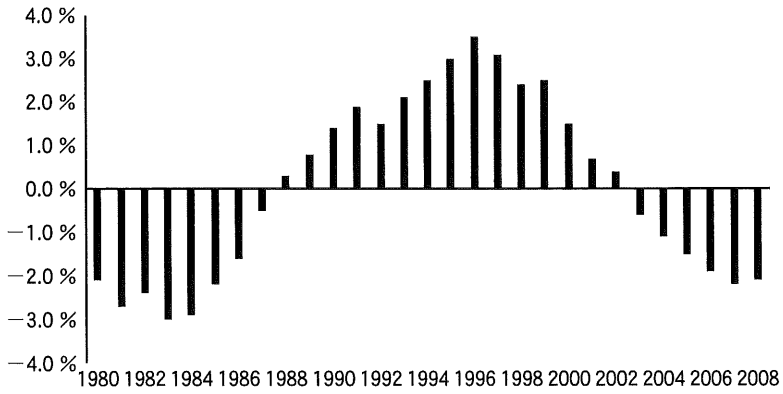
Annual net profit or loss as percentage of total revenue of ICAO member airlines, 1980-2008

②



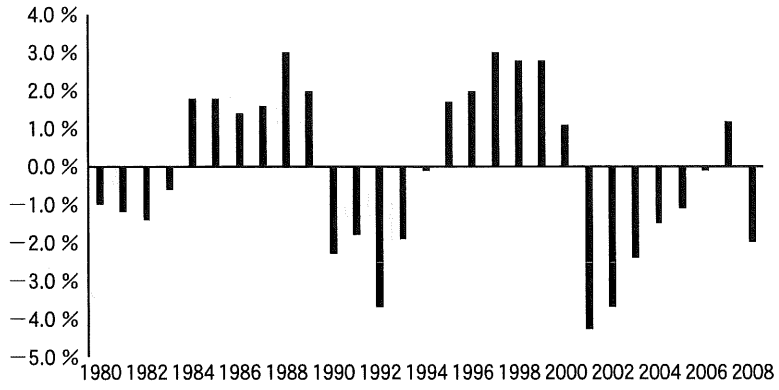
Annual net profit or loss as percentage of total revenue of ICAO member airlines, 1980-2008

③



Annual net profit or loss as percentage of total revenue of ICAO member airlines, 1980-2008

④



Annual net profit or loss as percentage of total revenue of ICAO member airlines, 1980-2008

問 6　下線部(2)の日本語訳として最も適切なものを下記から選び，番号で答えなさい。

① 興味　② 利子　③ 利害関係者　④ 趣味　⑤ 重要

問 7　本文の内容と照らし合わせ，航空会社の財務実績を測ることが困難である理由として正しいものを，下記からすべて選び，番号で答えなさい。

① Because each country uses different currency units.

② Because the methods of calculating assets vary according to individual companies.

③ Because the performance of airlines from countries that are hostile to the United States is unclear.

④ Because how much government subsidy each company is receiving is unclear.

⑤ Because the performance of airlines that are not listed on the stock exchange is not disclosed.

問 8　航空産業の paradox とは何か，本文に則して 50 字以内で説明しなさい。

問題Ⅳ

Read the topic carefully. Answer in English in 120–150 words.

What is the single most interesting thing you have learned in your high school lessons? Clearly explain what it is you learned and why it is so interesting for you. Make sure your answer is about what you learned in your classroom subjects at school (not club activity). Furthermore make sure your answer is clear for your reader and can be understood even by someone who has not studied that topic.