

2026年度

「英 語」

試験時間 60分

配点 100点

【 1 】 次の英文を読み，以下の問いに答えよ。

Just as our ancestors could not compete with a steam engine in pulling a load of coal along a railway track, we cannot compete with thinking machines for their sheer brainpower and computational heft*. In 1996, Garry Kasparov could not outthink* Deep Blue, the chess-playing IBM supercomputer, and since then machines have had twenty years of exponential* growth in processing power. As such, the most useful education for today's age will not teach people just how to calculate chess moves or pull metaphorical* coal. It will teach people how to do what machines cannot. This means educating people to think in ways that cannot be imitated by networks of machines.

(A) , keeping ahead of technology meant escalating levels of education. The ability to read a handbook once qualified you to operate a mechanical loom*; a high school diploma was all the schooling you needed for a lifetime on the factory floor. A college degree was once enough to put you behind a manager's desk, while a master of business administration or law degree opened the doors to the boardroom and the corner office. Look at the LinkedIn profiles of successful tech workers today, and you often will find that they have a master's degree in information technology or project management. But because machines are becoming exponentially smarter, we will need more than simply greater amounts of education to keep pace.

Nor will we simply need education in the content that currently is in vogue* among employers. One of higher education's primary purposes has always been to impart* content, but intelligent machines are upending* the utility of simply knowing things. Information is now instant, ubiquitous*, and free. (B) , we need an education that teaches people to learn throughout their lives, bolstering* their talents to do what machines cannot.

Which raises a question: what are human beings singularly good at doing? Compared to other animals, we have enormous brains and a knack* for digital manipulation that makes us deft* with sharpened stones or computer keyboards. But unlike economic eras of the past, we no longer are comparing ourselves to other animals. Robots and advanced machines will soon surpass our most obvious evolutionary strengths, dwarfing* us in cognition, precision, and power. But human beings also have evolved as supremely social animals. To survive, our offspring required the social bonds of family and tribe and the imprint of learned knowledge—(C) , of education. This mental flexibility—the ability to learn to speak Mandarin, to catch antelope, or to ride a bicycle—is perhaps our species' greatest survival tactic. (D) , we can learn almost anything and adapt to any cultural circumstance.

出典 : Joseph E. Aoun, *Robot-Proof: Higher Education in the Age of Artificial Intelligence*, MIT Press; Reprint, 2018 より抜粋。

注)

computational heft* 計算力, 計算量

outthink* ~を知恵で負かす, 出し抜く, ~に思考で勝る

exponential* 指数関数的な

metaphorical * 比喩的な

loom* 織機

in vogue* 流行している

impart* ~を伝える, 授ける

upend* ~をひっくり返す

ubiquitous* どこにでもある, 遍在する

bolster* ~を強化する

knack* 才覚, 技巧, こつ

deft* 器用な, 手際のよい

dwarf* ~を小さく見せる

問1 本文で述べられている, Garry Kasparov と Deep Blue の対戦が象徴しているものは何か。最も適当なものを次の①~④から1つ選び, その番号をマークせよ。

- ① a human victory over a machine
- ② the emotional differences between humans and computers
- ③ the superiority of machines to humans in specific capabilities
- ④ the long-standing dominance of humans in games

問2 空所 (A) ~ (D) のそれぞれに入る語句の組合せとして最も適当なものを次の①~④から1つ選び, その番号をマークせよ。なお文頭に来るものでも小文字で示してある。

- ① A: at an early age B: in other words C: as a result D: until now
- ② A: until now B: at an early age C: as a result D: in other words
- ③ A: at an early age B: in other words C: until now D: as a result
- ④ A: until now B: as a result C: in other words D: at an early age

問3 下線部 “Nor will we simply need education in the content that currently is in vogue among employers.” から分かることは何か。最も適当なものを次の①～④から1つ選び、その番号をマークせよ。

- ① Employers are always accurate in predicting educational trends.
- ② Traditional education will always make even with job market demands.
- ③ Education should primarily focus on memorizing facts.
- ④ We must not be content with currently popular skills required by employers.

問4 機械から区別される人間の重要な特性とは何か。最も適当なものを次の①～④から1つ選び、その番号をマークせよ。

- ① capacity for lifelong learning and social bonding
- ② physical strength and coordination
- ③ the ability to perform repetitive tasks consistently
- ④ superior short-term memory and attention to detail

問5 進化した機械の台頭により高等教育はどのような変化を迫られているか。最も適当なものを次の①～④から1つ選び、その番号をマークせよ。

- ① to focus on rote memorization of facts
- ② to emphasize continuous learning rather than mere memorization
- ③ to reinforce the purpose of imparting knowledge
- ④ to concentrate exclusively on practical, rather than theoretical, contents

問6 本文の内容と一致するものを次の①～④から1つ選び、その番号をマークせよ。

- ① The best way to outperform machines is to memorize large amounts of data.
- ② Higher education should focus on teaching more interesting content.
- ③ Machines have so far lacked the flexibility and adaptability that humans naturally possess.
- ④ Most successful tech workers have no formal educational background.

【2】 次の英文を読み、以下の問いに答えよ。

A few years ago, I was one of about a hundred participants, most of us science journalists or would-be science journalists, in an experiment on extrasensory perception*. The experimenter was Josh Tenenbaum, a cognitive scientist at the Massachusetts Institute of Technology. Tenenbaum had a penny—a fair coin, he told us. He would flip it five times. Each time he would send “mind rays” out into the room telling us whether the coin had come up heads or tails. All of us would try to receive his signals and then write down what message we received. At the end of the experiment, we would know who had extrasensory perception and who did not.

He flipped. We wrote. He flipped again, we wrote again. After the final flip, he asked how many of us sensed that the penny had turned up heads-heads-tails-heads-tails. About a third of us, including me, said that we had. He asked how many thought the penny had landed tails-tails-heads-tails-heads. Another quarter of the group raised their hands.

Then he asked how many of us thought the penny had landed on heads every time, or tails every time. None of us had come up with HHHHH or TTTTT, even though, statistically, they were just as likely as HHTHT or TTHTH.

Then he told us, of course, there were no such things as mind rays and that the “experiment” had nothing to do with extrasensory perception. Instead, it was yet another demonstration of how people have wrong ideas about randomness—about statistics. We know what randomness looks like—it looks like HHTHT or TTHTH—but we are wrong.

Tenenbaum had pointed out one of the three major deficits* ordinary Americans exhibit when they try to think about science: we don’t reason probabilistically, we don’t understand the scientific method, and we don’t know much.

By now it is a truism that Americans don’t much like studying science. In fact, when the National Research Council, the research arm of the National Academy of Sciences, surveyed biology students at the beginning and the end of the tenth grade, they found they were less interested in science at the end of the year than they had been at the beginning. That is, the experience of studying tenth-grade biology, usually the first serious science course students encounter, was not encouraging them to explore the wonders of nature or the possibilities of engineering. It was turning them off.

Volumes have been written about why this is so. Blame is variously (1)ascribed to poor teaching; teaching science in the wrong order (biology-chemistry-physics rather than the reverse, which would make more sense scientifically); our long anti-intellectual tradition (even in the *New York Times* newsroom I have heard people almost brag* of their innumeracy*); laboratory exercises that are more like following cookbook recipes than journeys of discovery; and, my personal pet hate, in college the ubiquitous* introductory science courses designed not to draw students into majoring in math or engineering or chemistry, but to drive them away.

For our purposes, it is enough to know that many people who studied science and math in high school or even college remember the experience unhappily as a time in which they were alternately bored or humiliated. So it is not surprising that many Americans don't know that the earth goes around the sun and takes a year to do it, that molecules are larger than atoms, or that all plants and animals, genetically engineered* or not, have genes.

Perhaps as a result, people don't follow science as well as they might. According to the Research! America's Bridging the Sciences survey, when Americans were asked to name a living scientist, 74 percent drew a blank. Stephen Hawking was named by 8 percent of participants, but no one else drew more than 1 percent. One of the "living scientists" named by those surveyed was Albert Einstein, who died in 1955. Another was Robert Jarvik, in the news at the time because his endorsements* of the anticholesterol drug Lipitor had come into question.

According to the same survey, when people were asked if they could name any nearby institutions, companies, or organizations that engaged in research, many—including 40 percent in Massachusetts, 53 percent in California, and 57 percent in Texas—had nothing to say.

More important than ignorance of technical facts is ignorance of the way science works. Science looks to nature for answers to questions about nature, tests those answers through experiment and observation, and considers the results ⁽²⁾provisional—valid only until new experiments or observations challenge them.

The public's ignorance of these features of science helps explain how otherwise savvy* people can think that creationism* or intelligent design is appropriate for a science classroom. They don't understand that a theory that relies on the action of a supernatural entity is, by definitions that have prevailed since the Enlightenment*, not science.

Our reasoning is equally flawed. ⁽³⁾Given examples, we generalize. Given effects, we infer causes. Instead of viewing correlation for what it is—an opportunity to hypothesize about causation—we assume it *proves* causation. And for us, vivid anecdotes* mean more than piles of data.

We do not reason probabilistically—and not just when it comes to coin-tossing. We do not understand, for example, that if a phenomenon occurs widely and randomly in a large population, there will be places where it will seem to have occurred in a cluster—a cancer cluster, say. ⁽⁴⁾If such clusters did not exist, the distribution would be too uniform to be random.

出典 : Cornelia Dean, *Am I Making Myself Clear?: A Scientist's Guide to Talking to the Public*,
Harvard University Press, 2009 より抜粋のうえ、一部改変。

注)

extrasensory perception*	超感覚的知覚
deficit*	欠点, 不足
brag*	自慢する, 得意げに話す
innumeracy*	数学の基礎的な知識や理解の欠如, 数学音痴
ubiquitous*	どこにでもある, 遍在する
genetically engineered*	遺伝子操作された
endorsement*	推薦, 支持
savvy*	聡明な
creationism*	世界が超自然的な存在によって創造されたとする説
Enlightenment*	啓蒙時代
anecdote*	逸話, 個人的な話

問 1 Josh Tenenbaum による実験の真の目的は何か. 最も適当なものを次の①~④から 1 つ選び, その番号をマークせよ.

- ① to evaluate Josh Tenenbaum's abilities as a science journalist
- ② to show that people have misconceptions about randomness and statistics
- ③ to scientifically measure the participants' abilities in extrasensory perception
- ④ to demonstrate that the probability of heads or tails in a coin flip is actually 50%

問 2 コインを投げる実験で明らかになったランダム性に関する一般的な誤解とは何か. 最も適当なものを次の①~④から 1 つ選び, その番号をマークせよ.

- ① Scientists can manipulate random outcomes by sending "mind rays."
- ② Random sequences tend to always repeat the same patterns.
- ③ According to probability theory, extreme outcomes like HHHHHH or TTTTTT are less likely than HHTHT or TTHTH.
- ④ People tend to believe that true randomness is something like HHTHT rather than HHHHH.

問 3 下線部(1)と(2)をそれぞれ別の単語に置き換えるときに, 意味的に最も適当なものを次の①~④から 1 つ選び, その番号をマークせよ.

- (1) ① attributed ② subscribed ③ described ④ contributed
- (2) ① permanent ② eternal ③ temporary ④ constant

問 4 アメリカ人の科学への関心が低下している理由のうち、本文に**挙げられていないもの**は何か。最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① The introductory science curricula in college do not encourage students to major in the natural sciences.
- ② The national budget for science education is insufficient.
- ③ Science is taught in the order of biology, chemistry, and physics.
- ④ Science exercises are conducted following the predetermined instructions.

問 5 人々が科学の特徴を理解していないことからもたらされる問題はどのようなものか。本文の内容に照らして最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① the spread of misinformation by the popular media
- ② decrease in government funding for scientific research
- ③ inclusion of non-scientific ideas in science classrooms
- ④ growing distrust of leading scientists

問 6 下線部(3)の日本語訳として最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① 例を与えられると、我々はそれを一般化する。
- ② 例を与えられなければ、我々はそれを一般化できない。
- ③ 我々は与えられた例を一般化する。
- ④ 例が与えられるほど、我々はより一層、一般化する。

問 7 下線部(4)が述べている現象の例として最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① 人口の多い都市でガンが集団発生するとき、その原因は必ず存在する。
- ② 無作為に豆をまく行為を繰り返すと、確率論的には豆の分布は等間隔になる。
- ③ 正確に作られた乱数では、同じ数字が並ぶことはない。
- ④ 全てのカードが等確率で出現するトランプを無限回引いたときに、数字の「1」が 3 回連続で出ることがある。

問 8 本文の内容と一致するものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① The experiment conducted by Josh Tenenbaum proved the existence of mind rays.
- ② The author suggests that teaching science in the sequence of physics, chemistry, and biology be more appropriate from a scientific standpoint.
- ③ A large number of Americans who were asked to name a living scientist mentioned Stephen Hawking.
- ④ Intelligent design is accepted in classrooms because it is based on science.

【3】 次の英文を読み、以下の問いに答えよ。

A new study by three MIT scholars has found that false news spreads more rapidly on the social network Twitter than real news does — and by a substantial margin.

“We found that falsehood diffuses* significantly farther, faster, ⁽¹⁾(____), and more broadly than the truth, in all categories of information, and in many cases by an order of magnitude,” says Sinan Aral, a professor at the MIT Sloan School of Management and co-author of a new paper detailing the findings.

“These findings shed new light on fundamental aspects of our online communication ecosystem,” says Deb Roy, an associate professor of media arts and sciences at the MIT Media Lab and director of the Media Lab’s Laboratory for Social Machines (LSM), who is also a co-author of the study. Roy adds that the researchers were “somewhere between surprised and stunned” at the different trajectories* of true and false news on Twitter.

Moreover, the scholars found, the spread of false information is essentially not due to bots that are programmed to disseminate* inaccurate stories. Instead, false news speeds faster around Twitter due to people retweeting inaccurate news items.

“When we removed all of the bots in our dataset, the differences between the spread of false and true news ⁽²⁾stood,” says Soroush Vosoughi, a co-author of the new paper and a postdoc* at LSM whose PhD ⁽³⁾[① give ② helped ③ research ④ rise ⑤ the ⑥ to] current study.

The study provides a variety of ways of quantifying this phenomenon: For instance, false news stories are 70 percent more likely to be retweeted than true stories are. ⁽⁴⁾It also takes true stories about six times as long to reach 1,500 people as it does for false stories to reach the same number of people. When it comes to Twitter’s “cascades,” or unbroken retweet chains, falsehoods reach a cascade depth of 10 about 20 times faster than facts. And ⁽⁵⁾falsehoods are retweeted by unique users more broadly than true statements at every depth of cascade.

The paper, “The Spread of True and False News Online,” is published today in *Science*.

Why novelty may drive the spread of falsity

The genesis of the study involves the 2013 Boston Marathon bombings and subsequent casualties, which received massive attention on Twitter.

“Twitter became our main source of news,” Vosoughi says. But in the aftermath* of the tragic events, he adds, “I realized that ... a good chunk of what I was reading on social media was rumors; it was false news.” Subsequently, Vosoughi and Roy — Vosoughi’s graduate advisor at the time — decided to pivot Vosoughi’s PhD focus to develop a model that could predict the veracity* of rumors on Twitter.

Subsequently, after consultation with Aral — another of Vosoughi’s graduate advisors, who has

studied social networks extensively — the three researchers decided to try the approach used in the new study: objectively identifying news stories as true or false, and charting their Twitter trajectories*. Twitter provided support for the research and granted the MIT team full access to its historical archives. Roy served as Twitter’s chief media scientist from 2013 to 2017.

To conduct the study, the researchers tracked roughly 126,000 cascades of news stories spreading on Twitter, which were cumulatively* tweeted over 4.5 million times by about 3 million people, from the years 2006 to 2017.

(6)To determine whether stories were true or false, the team used the assessments of six fact-checking organizations (factcheck.org, hoax-slayer.com, politifact.com, snopes.com, truthorfiction.com, and urbanlegends.about.com), and found that their judgments overlapped more than 95 percent of the time.

Of the 126,000 cascades, politics comprised the biggest news category, with about 45,000, followed by urban legends, business, terrorism, science, entertainment, and natural disasters. The spread of false stories was more pronounced for political news than for news in the other categories.

The researchers also settled on the term “false news” as their object of study, as distinct from the now-ubiquitous term “fake news,” which involves multiple broad meanings.

The bottom-line findings produce a basic question: (7)Why do falsehoods spread more quickly than the truth, on Twitter? Aral, Roy, and Vosoughi suggest the answer may reside in human psychology: We like new things.

“False news is more novel, and people are more likely to share novel information,” says Aral, who is the David Austin Professor of Management. And on social networks, people can gain attention by being the first to share previously unknown (but possibly false) information. Thus, as Aral puts it, “people who share novel information are seen as being in the know.”

The MIT scholars examined this “(8)novelty hypothesis” in their research by taking a random subsample of Twitter users who propagated* false stories, and analyzing the content of the reactions to those stories.

The result? “We saw a different emotional profile for false news and true news,” Vosoughi says. “People respond to false news more with surprise and disgust,” he notes, whereas true stories produced replies more generally characterized by sadness, anticipation, and trust.

So while the researchers “cannot claim that novelty causes retweets” by itself, as they state in the paper, (9)[① people ② when ③ see ④ they ⑤ the surprise ⑥ register] false news fits with the idea that the novelty of falsehoods may be an important part of their propagation.

出典 : Peter Dizikes, *Study: On Twitter, false news travels faster than true stories*, MIT News, March 8, 2018, <https://news.mit.edu/2018/study-twitter-false-news-travels-faster-true-stories-0308>

より抜粋のうえ、一部改変。

注)

diffuse*	拡散する
trajectory*	軌跡, 経路
disseminate*	～を広める
postdoc*	博士号 (PhD) を取得後の研究員
aftermath*	直後の時期
veracity*	信憑性
cumulatively*	累積して
propagate*	～を広める

問 1 下線部(1)に入る語 (句) として最も適当なものを次の①～④から 1 つ選び, その番号をマークせよ.

- ① deep ② deeper ③ deepest ④ deeply

問 2 下線部(2)と置き換えられる語として最も適当なものを次の①～④から 1 つ選び, その番号をマークせよ.

- ① placed ② remained ③ appeared ④ prevailed

問 3 下線部(3)の [] 内の語を文脈に最も適合するように並び替えたとき, 3 番目と 6 番目にくるものを選び, その番号をマークせよ.

問 4 下線部(4)の日本語訳として最も適当なものを次の①～④から 1 つ選び, その番号をマークせよ.

- ① 真実のニュースが 1,500 人に届くのに必要な時間は, 偽ニュースが同人数に届くのに必要とされる時間の約 6 倍である.
- ② 真実のニュースが 1,500 人に届くのに必要な情報量は, 偽ニュースが同人数に届くのに必要とされる情報量の約 6 倍である.
- ③ 真実のニュースが 1,500 人に届くのに必要なリツイート数は, 偽ニュースが同人数に届くのに必要とされるリツイート数の約 6 倍である.
- ④ 真実のニュースが 1,500 人に届くのに必要なリツイートの連鎖の深さは, 偽ニュースが同人数に届くのに必要とされるリツイートの連鎖の深さの約 6 倍である.

問 5 下線部(5)が表す内容として最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① 偽情報は、ツイートの拡散段階において、少数のユーザーによって、真実の発信よりも効率よくリツイートされている。
- ② 偽情報は、ツイートの各段階で、延べ人数ベースでより多くのユーザーが繰り返しリツイートすることにより、真実の発信よりも広く拡散する傾向がある。
- ③ 偽情報は、リツイートの連鎖が深まるほど、真実の発信よりも広い範囲で異なるユーザーによって共有される。
- ④ 偽情報は、リツイートの連鎖のどの段階でも、実人数ベースのユーザーによって、真実の発信よりも広範囲にリツイートされている。

問 6 下線部(6)が表す内容として最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① 6 つのファクトチェック団体のうち任意の 2 つの団体が同じ判断をする確率は 95%を超えていた。
- ② 6 つのファクトチェック団体によるニュースの真偽の判断は、95%超のケースで一致していた。
- ③ 6 つのファクトチェック団体の各々によるニュースの真偽の正答率は 95%を超えていた。
- ④ 6 つのファクトチェック団体の各々によるニュースの真偽の判断は、5%弱のケースで間違っていた。

問 7 下線部(7)の問いに対する答えとして最も適当なものを次の①～④から 1 つ選び、その番号をマークせよ。

- ① Because false news is written in simpler, more novel, and more emotional language.
- ② Because false news is deliberately spread by political parties to control people's minds.
- ③ Because false news is retweeted more often by bots, which amplify its spread and increase its visibility across social media networks.
- ④ Because false news is more novel and evokes stronger psychological reactions in humans.

問 8 下線部(8)の説明として最も適当なものを次の①～④から1つ選び、その番号をマークせよ。

- ① Novel information reaches more people in a shorter period because it is sent by people in the know and thus worth trusting.
- ② People spread false news faster only because it is disgusting, and sharing this type of news helps them gain more attention.
- ③ False news spreads more quickly because it is more novel and because people can be seen as knowledgeable by sharing unknown information.
- ④ People share novel information earlier and more quickly because it is more valuable than already known information and is more likely to be accurate.

問 9 下線部(9)の[]内の語句を文脈に最も適合するように並び替えたとき、3番目と6番目にくるものを選び、その番号をマークせよ。

問 10 本文の内容と**一致しないもの**を次の①～④から1つ選び、その番号をマークせよ。

- ① Twitter 上では、偽ニュースは真実のニュースよりも急速に拡散し、その拡散の速さには顕著な差が見られる。
- ② 偽ニュースが拡散する主な理由は、人々がニュースの正確性や発信元を確認せずに情報を信じてしまう傾向にあるためである。
- ③ ある期間に Twitter 上で拡散したニュース記事に基づく約 12 万 6,000 件のリツイートの連鎖を調べたところ、それらの情報は約 300 万人によって累計 450 万回を超えてツイートされていた。
- ④ 偽ニュースは、すべての種類の情報において、真実のニュースよりも非常に広く、速く、深く、そしてより広範囲に拡散し、その差は多くの場合、桁違いにのぼる。