

I 次の英文を読み、下記の設問に答えなさい。

(\*のついた語は注を参照すること。)

Many places around the world celebrate unique geological formations or natural phenomena by associating them with divinity. In India, Lonar, one of the world's largest terrestrial impact craters, is considered a holy site and is the locus of several temples. a can be seen at this site.

[ I ] The Pleistocene Epoch was the geological age that lasted from about 2,580,000 to 11,700 years ago, and it was in this period that a meteorite collision impact created a large depression in the ground at Lonar. Lonar has one of the few well-preserved terrestrial impact craters in the world. The site has been an important subject of study because the geomorphology and hydrology of the crater are similar to those on other ( あ ) bodies, such as Mars.

[ II ] This body of water, called Lonar Lake, has a thin stretch of shore encircling it. The main perennial\* stream runs into the crater lake from the north-east. About fifty meters lower is another perennial spring that drains into the lake. Owing to its high salinity and the presence of halophilic archaea\* microbes, Lonar Lake supports microorganisms like blue-green algae\* and bacteria. In 2020, Lonar Lake was recognized as a site of international importance, under the protection of an inter-governmental treaty known as the Ramsar Convention. Since 2000, the Government of India has declared the forest surrounding Lonar Lake a wildlife sanctuary ( ① ) the jurisdiction of the Maharashtra State Forest Department.

[ III ] The natural water sources and streams around the site that feed the lake are ( ② ) particular importance in Hindu practice. All such locations are marked by a temple construction. These temples are clustered in three prime locations near the crater. Based on archaeological evidence, we can infer that Lonar gained importance as a religious site only after the tenth

century. However, the crater was a well-known site prior ( ③ ) this period, and a small settlement was already present on the rim.

The highest concentration of temples at Lonar is around the rim of the crater, thus making the crater ( ④ ) to all narratives associated with the temples. The most frequented temple site is the Dharatirtha, named ( ④ ) the perennial water spring that flows there. The valley through which the water flows into the crater is also used as one of the main routes to access the lake. In addition to the main temple, there are five small shrines dedicated to Hindu deities such as Vishnu\*, built in different periods, and surrounded by semi-open spaces. While moving around the salt-water lake, one witnesses a historical timeline of at least four hundred years as shown through its architecture. There is a strong physical connection between each temple and the crater. Successive temple builders have not only honored the presence of the crater, but also added layers of meaning to the pilgrimage circuit, connecting all the places around and within the crater.

Beyond the ecological and geological significance of the crater, an important aspect of this landscape is its cultural perception. Over time, an entire mythological system has evolved, which explains the creation of the lake and its seasonal changes. The principal dominant myth is a story in which the god Vishnu triumphs over a demon who was disrupting life in the region. <sup>(1)</sup> Lonar Lake is explained as the outcome of a catastrophic event, in which a divine power appeared to defeat the demon.

The mythological narrative of Lonar encapsulates people's perception and comprehension of the crater. Beyond Hinduism, ( ⑤ ) many other multivalent sites in India, Lonar is also frequented by people practicing different religions.

[ IV ] The archaeological evidence allows us to construct a timeline for this human attempt at explaining and comprehending a landscape. Geology is understood through natural materials and forms, while mythology is based on <sup>(2)</sup>

literary interpretation of narratives. Archaeological evidence comprises man-made artifacts physically recovered on the site. The identity of Lonar lies at the intersection of these three layers and the meaning assigned to its creation, thus transforming a mere ( う ) place to a cultural and ( え ) space.

【出典：Sohoni, Pushkar and Swapna Joshi. “Geological Wonder as a Sacred Landscape: The Case of Lonar Crater.” *Education about Asia* 27(3):37-41 (Winter 2022). 出題の都合上、原文の一部に変更を加えている。】

#### 注

perennial	永続的な, 絶え間なく続く
halophilic archaea	好塩性古細菌
algae	藻類
Vishnu	ビシュヌ(ヒンドゥー教の神)

#### 設 問

1. 空欄  から始まる文は、この文章全体の趣旨を説明する文です。  に入る最も適切なフレーズを選択肢から選び、記号で答えなさい。
- (A) Geological importance of this unique crater with saline and alkaline lakes
  - (B) Magnificent natural scenery of the crater that has fascinated pilgrims as well as tourists
  - (C) The natural history of the formation of the crater and the cultural history of how it has been perceived by humans
  - (D) The ways in which ancient people's perception and comprehension of Lonar have influenced their technologies of temple construction

2. [ I ]～[ IV ]に入る最も適切な文を選択肢から選び、記号で答えなさい。ただし、各記号は1回しか使用できない。

- (A) Another mythological layer imposed on the landscape around the crater comes from the text known as the *Lonar Mahatmya*.
- (B) Archeological excavation projects around the crater were stopped by 2010 due to an increasing number of natural disasters.
- (C) At Lonar, material culture exists in the form of temples, which can be dated from the tenth century onwards.
- (D) During the annual Hindu festival of Navaratri, a large fair is held here to celebrate and propitiate the goddess.
- (E) Geological processes often take tens of thousands or even millions of years to unfold.
- (F) The Lonar crater has a mean diameter of 1.12 miles and the floor of the crater is filled with salt water approximately 459 feet below the crater rim.
- (G) The Lonar crater is a fine example of how geological phenomena are often overlaid with mythological meaning.

3. ( あ )～( え )に入る最も適切な表現を選択肢から選び、記号で答えなさい。ただし、各記号は1回しか使用できない。

- (A) central
- (B) geographical
- (C) planetary
- (D) prone
- (E) religious
- (F) subsequent

4. ( ① )～( ⑤ )に入る最も適切な表現を選択肢から選び、記号で答えなさい。ただし、各記号は1回しか使用できない。

- (A) after                      (B) as                      (C) between  
(D) from                      (E) like                      (F) of  
(G) to                      (H) under

5. 下線部(1)によれば Lonar Lake はどのようにしてできたとされているか。25字から35字(句読点も含む)の日本語で述べなさい。

6. 下線部(2)を日本語に訳しなさい。

## II 次の英文を読み、下記の設問に答えなさい。

Scientists who study happiness know that being kind to others can improve well-being. Acts as simple as buying a cup of coffee for someone can boost a person's mood. Everyday life affords many opportunities for such actions, yet people do not always take advantage of them.

In studies published online in the *Journal of Experimental Psychology: General*, Nicholas Epley, a behavioral scientist at the University of Chicago Booth School of Business, and I examined a possible explanation: people who perform random acts of kindness<sup>(1)</sup> underestimate how much recipients value their behavior.

Across multiple experiments involving approximately 1,000 participants, people performed a random act of kindness—that is, an action done with the ( あ ) intention of making someone else (who isn't expecting the gesture) feel good. Those who perform such actions expect nothing in return.

From one situation to the next, the specific acts of kindness varied. For instance, in one experiment, people wrote notes to friends and family “just because.” In another, they gave cupcakes away. Across these experiments, we asked both the person performing a kind act and the one receiving it to fill out questionnaires. We asked the person who had acted with kindness to report their own experience and predict their recipient's response. We wanted to understand how valuable people perceived these acts to be, so both the performer and recipient had to rate how “( い )” the act seemed. In some cases, we also inquired about the actual or perceived cost in time, money or effort. In all cases, we compared the performer's expectations of the recipient's mood with the recipient's actual experience.<sup>(2)</sup>

Across our investigations, several robust patterns emerged. For one, both performers and recipients of the acts of kindness were in more positive moods than normal after these exchanges. For another, it was clear that performers

undervalued their impact: recipients felt significantly better than the kind actors expected. The recipients also reliably rated these acts as “bigger” than the people performing them did.

We initially studied acts of kindness done for familiar people, such as friends, classmates or family. But we found that a. In one experiment, participants at an ice-skating rink in a public park gave away hot chocolate on a cold winter’s day. Again, the experience was more positive than the givers anticipated for the recipients, who were people who just happened to be nearby. Although the people giving out the hot chocolate saw the act as relatively inconsequential, it really mattered to the recipients.

Our research also revealed one reason that people may underestimate their action’s impact. When we asked one set of participants to estimate how much someone would like getting a cupcake simply for participating in a study, for example, their predictions matched recipients’ reactions well. But when people received cupcakes for no particular reason, the cupcake givers underestimated how positive their recipients would feel. Recipients of these unexpected actions tend to focus more on *warmth* than performers do.

<sup>(3)</sup>Missing the importance of warmth may stand in the way of being kinder in daily life. People know that cupcakes can make folks feel good, to be sure, but it turns out that cupcakes given in kindness can make them feel *surprisingly* good. If people undervalue this effect, they might not bother to carry out these warm, prosocial behaviors.

And kindness can be ( ̃ ). In another experiment, we had people play an economic game that allowed us to examine what are sometimes called <sup>(4)</sup>“pay it forward” effects. In this game, participants allocated money between themselves and a person whom they would never meet. People who had just been on the receiving end of a kind act gave substantially more to an anonymous person than those who had not. The person who performed the initial act did not recognize that their generosity would spill over in these

downstream interactions.

These findings suggest that what might seem ( え ) when we are deciding whether or not to do something nice for someone else could matter a great deal to the person we do it for. ( お ) that these warm gestures can enhance our own mood and brighten the day of another person, why not choose kindness when we can?

【出典：Kumar, Amit. “Kindness Can Have Unexpectedly Positive Consequences.” *Scientific American* (Online) December 12, 2022. 出題の都合上、原文の一部に変更を加えている。】

#### 設 問

1. 下線部(1)の具体的な例を本文中から1つ探し、25字から35字(句読点も含む)の日本語で説明しなさい。
2. ( あ )～( お )に入る最も適切な表現を選択肢から選び、記号で答えなさい。文頭に入る場合も小文字で表記してある。各記号は1回しか使用できない。  
(A) according                      (B) big                                  (C) compulsory  
(D) contagious                      (E) disappointed                      (F) given  
(G) insensitive                      (H) malicious                      (I) primary  
(J) small
3. 下線部(2)を日本語に訳しなさい。



4. 文脈を考えて、空欄 

a
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 に入る最も適切な英文を選択肢から選び、記号で答えなさい。

- (A) complete strangers were not willing to participate in our study
- (B) givers accepted the outcome of their kind act without much surprise
- (C) participants underestimated their positive impact on strangers as well
- (D) the act of random kindness to familiar people often went unnoticed
- (E) the recipients normally hesitated to express their gratitude to the givers

5. 下線部(3)を日本語に訳しなさい。

6. 下線部(4)はどのような現象を指すか、本文の内容に即して25字から35字(句読点も含む)の日本語で説明しなさい。

### III Read the conversation below and answer the following questions.

- Missy:** Grandpa, I wonder if you could help me with a history assignment.
- Greg:** Wouldn't it be better to just look it up online?
- Missy:** This semester I'm learning about historiography, so the professor says we should gain experience gathering historical information through various sources, including listening to people.
- Greg:** Quick question: what's historiography?
- Missy:** Basically, studying methods historians use to gather information and report it.
- Greg:** Oh, like oral history?
- Missy:** Right! Do you have a memory of an extraordinary day in history?
- Greg:** Sure, there's one day that stands out: the first moon landing. That was 1969. I was about your age.
- Missy:** Why do you think that's so special for you?
- Greg:** Well, no offense, but it's hardly a mystery. There'd been this strange ball up there in the sky for billions of years, and creatures on earth had been watching it for an awfully long time. Finally, we made it. Two humans were standing up there.
- Missy:** I remember learning about that in school. Neil Armstrong was the first man to walk on the moon. I'm sorry I missed it.
- Greg:** Here's the thing, though: we could watch it on TV, which was a fairly [ ① ] invention at that time. That was part of what made it so special. It was a bit hard to make out the images clearly, but millions of us around the world could see it live. There's never been a global event quite like it. What about you? What's the biggest historical event you recall?
- Missy:** I can't think of anything much the same. But I guess I haven't been around so long.

**Greg:** Good point. But you'll probably watch humans landing on Mars sometime in your lifetime, and that's way further than the moon.

**Missy:** Yes, that'll be good. Still, we've already learned quite a bit about Mars from robots crawling around out there. Was there a [ ② ] understanding of what the moon was like before the moon landing?

**Greg:** There were some grainy photographs but not so much detailed knowledge. Some people worried the spacecraft might sink into the very fine dust on the surface and not be able to return. Even scientists weren't completely sure about many things.

**Missy:** I remember an article that said Armstrong thought there was only a 50/50 chance of success. It must have seemed like an amazing adventure. What was the impact on you personally?

**Greg:** That event probably made me more optimistic. We'd been living with the threat of another [ ③ ] war for some time. The moon landing made it seem like humans could do wonderfully positive things too.

**Missy:** Have you felt disappointed since then?

**Greg:** In some ways. But in other ways I'm still impressed by what humans can achieve. What about you? Technology is changing the world at a tremendous pace. Are you optimistic about the future?

**Missy:** I go back and forth.

**Greg:** You could live for a very long time. You might even go into space.

**Missy:** I wouldn't mind. It's hard to see far off into the future these days, though. What will the planet's environment be like? How much will things be run by AI, and what will [ ④ ] relations be like? What do you think?

**Greg:** Honestly, I don't have much idea. I'll say this, though: I think it's good that you're thinking about history, because even with accelerating change, we learn useful lessons from the past.

**Missy:** Sure. That's what I think.

## QUESTIONS

1. In the context, which phrase below is closest in meaning to the underlined expression (1) “it’s hardly a mystery”?
  - (A) I find it hard to explain.
  - (B) I found it challenging to comprehend it.
  - (C) It’s not as simple as it seems.
  - (D) It’s quite obvious.
  - (E) Your question is impolite.
  
2. In the context, which phrase below is closest in meaning to the underlined expression (2) “I haven’t been around so long”?
  - (A) I am getting taller.
  - (B) I am new to the neighborhood.
  - (C) I am still pretty young.
  - (D) I don’t care so much.
  - (E) I have just come back.
  
3. What is the initial reason Missy wants to ask Greg about his experience?
  - (A) To better distinguish differences in perspective between generations.
  - (B) To broaden her understanding of practical history techniques.
  - (C) To comprehend how technology affects history.
  - (D) To deepen her knowledge of life in her grandfather’s youth.
  - (E) To learn from her grandfather how to explain oral history.

4. Based on the dialogue, which TWO of the following statements are most clearly true?

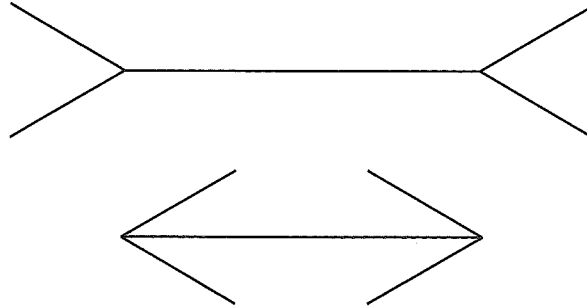
- (A) Greg could easily name the most memorable historical event in his life.
- (B) Missy feels humans have gathered a lot of information about Mars.
- (C) Missy would not like to try space travel.
- (D) Overall, Greg was disappointed by the moon landing.
- (E) The first astronauts who landed on the moon were positive that their mission would be successful.

5. Fill each gap [ ① ] – [ ④ ] with the most suitable word in the context from the list below. Do not use any word more than once.

- (A) capable
- (B) catastrophic
- (C) divided
- (D) domestic
- (E) personal
- (F) recent
- (G) thorough

6. Given recent advancements in technology, are you optimistic about the future? If so, why? If not, why not? Answer in 20 to 30 words. Indicate the number of words you have written at the end of your answer. Do not count punctuation such as commas or periods as words.

**IV** The following diagram presents what is known as the Müller-Lyer illusion. The two horizontal lines are the same length.



Carefully study the diagram and answer the questions that follow. Indicate the number of words you have written at the end of each answer. Do not count punctuation such as commas or periods as words.

#### **QUESTIONS**

1. Imagine you have to explain the diagram to somebody who has not seen it. How would you describe what it looks like? Your answer must be between 30 and 50 words.
2. Explain what the Müller-Lyer illusion demonstrates about how people see things. Your answer must be between 30 and 50 words.