

Follow instructions in sections A-C and answer the following items. Ensure that your choices correspond to the correct number on the marksheet.

(A) Complete the following sentences with the best word.

Sarah found it increasingly difficult to (1) ends meet each month, as the rising cost of living outpaced her earnings.

(1) ア find イ make ウ reach エ achieve

A: "Only after hours of analysis could she (2) the difference between the fake and the authentic signatures."

B: "Exactly—the copy was almost flawless."

(2) ア tell イ devise ウ notify エ examine

My mother was (3) when I forgot to call her before 6 p.m.

(3) ア cross イ tough ウ sparse エ wanting

When in trouble, she always turns (4) her older brother for advice.

(4) ア on イ to ウ up エ into

(B) Choose the answer that is closest in meaning to the underlined phrase.

(5) After weeks of preparation, the team was ready to pull out all the stops.

- ア come together
- イ prepare for challenges
- ウ overcome all obstacles
- エ manage resources carefully

(6) The new genetic study shed light on the possible causes of the rare neurological disorder.

- ア clarified
- イ criticized
- ウ questioned
- エ suppressed

（（C）（D）（E）は著作権の都合上，
掲載しておりません。（7）～（23））

Read the passage below and follow instructions in sections F and G. Ensure that your choices correspond to the correct number on the marksheet.

P1: Three-meter long, torpedo-shaped Caribbean reef sharks swim fast to force water through their mouths and over their gills so they can take in oxygen. But they can also ventilate their gills by using muscles in their mouth while lounging in the shallows, where they stalk reef-dwelling fish and the occasional unlucky lobster.

P2: In fact, their iconic streamlined form belies a homebody nature: They rarely stray more than a handful of miles from the reefs they frequent in the Caribbean and along the Atlantic coast of South America. In unprotected waters, this makes them an easy target for fishers, who in the past sold their fins to Asia for soup and still locally sell their meat for food, their skin for leather and their liver for oil, which is a rich source of vitamin A. Since the 1980s, Caribbean reef shark populations have dropped 52 percent. In some places, their numbers have plummeted⁽²⁴⁾ by as much as 99 percent, and since 2021 the sharks have been classified as endangered.

P3: But their stay-at-home tendencies have an upside. Because the animals tend to hang out in the same places, dive operators can count on seeing them, and they've spawned a burgeoning dive ecotourism industry in the Caribbean. Descending underwater with a professional shark handler carrying a container of fish, recreational divers wait on the seafloor. Soon enough, a Caribbean reef shark—sometimes a shiver of sharks—emerges, looping over the heads of the divers and claiming fish

from the handler, who feeds the shark using a long metal stick.

P4: While feeding wildlife is widely discouraged because it can change animal behaviors, research suggests that shark-diving tourism doesn't much alter the behaviors of Caribbean reef sharks as long as it's done responsibly, by controlling the amount of fish fed to the sharks. The Bahamas outlawed longline fishing in the 1990s and designated a shark sanctuary in 2011. As a result, populations have stabilized, and shark encounters now generate around \$110 million for the Bahamas annually. The hope is that shark ecotourism can provide a lifeline to locals who depend on the sea for their livelihood.

(F) Find the underlined words in the passage and choose the best substitute.

(24) Which choice is closest in meaning to plummeted in paragraph 2 (P2)?

- | | | |
|-------------|--------------|------------|
| ア changed | イ tumbled | ウ affected |
| エ increased | オ subtracted | |

(25) Which choice is closest in meaning to stabilized in paragraph 4 (P4)?

- | | | |
|-------------|---------------|------------|
| ア lobbied | イ steadied | ウ revamped |
| エ implanted | オ invigorated | |

(26) Which choice is closest in meaning to lifeline in paragraph 4 (P4)?

- | | | | | | |
|---|------------|---|------------|---|-----------|
| ア | quality | イ | direction | ウ | emergency |
| エ | proportion | オ | sustenance | | |

(G) Choose the best answer to the following:

(27) According to the passage, what is one method Caribbean reef sharks use to ventilate their gills while stationary?

- ア taking advantage of shallow water
- イ flexing to push water over their gills
- ウ streamlining their form when swimming quickly
- エ relying on currents to passively ventilate their gills
- オ naturally utilizing the flow of water when stalking prey

(28) According to the passage, why have Caribbean reef shark populations declined significantly since the 1980s?

- ア overfishing
- イ excessive tourism
- ウ habitat destruction
- エ industrial pollution
- オ classification as endangered

(29) According to the passage, what positive impact has the natural tendency of Caribbean reef sharks had?

- ア It has made them easier to study and protect.
- イ It has led to the establishment of shark sanctuaries.
- ウ It has resulted in their classification as endangered.
- エ It has decreased their interactions with human activities.
- オ It has boosted the dive ecotourism industry in the Caribbean.

(30) According to the passage, how has the Bahamas contributed to the preservation of Caribbean reef shark populations?

- ア by implementing a shark feeding ban
- イ by increasing the fines for illegal fishing
- ウ by generating huge sums of money every year
- エ by establishing marine protected areas for all fish species
- オ by outlawing certain types of fishing and creating a refuge

(31) According to the passage, what is a result of shark-diving tourism when done responsibly?

- ア It changes the natural behaviors of sharks.
- イ It discourages the protection of shark populations.
- ウ It leads to overfeeding and dependence on humans.
- エ It creates minimal economic benefit for local communities.
- オ It provides a stable and consistent source of food for sharks.

Read the article below and follow instructions in section H. Ensure that your choices correspond to the correct number on the marksheet.

P1: Ignaz Semmelweis was a Hungarian physician who discovered the cause of puerperal (childbed) fever and introduced antisepsis into medical practice. Educated at the universities of Pest and Vienna, Semmelweis received his doctor's degree from Vienna in 1844 and was appointed assistant at the obstetric clinic in Vienna. He soon became involved in the problem of puerperal infection, the scourge of maternity hospitals throughout Europe. Although most women delivered at home, those who had to seek hospitalization because of poverty, illegitimacy, or obstetrical complications faced mortality rates ranging as high as 25 to 30 percent. Some thought the infection was induced by overcrowding, poor ventilation, the onset of lactation, or miasma.

P2: Semmelweis observed that, among women in the first division of the clinic, the death rate from childbed fever was two or three times as high as among those in the second division, although the two divisions were identical with the exception that students were taught in the first and midwives in the second. He put forward the thesis that perhaps the students carried something to the patients they examined during labor. The death of a friend from a wound infection incurred during the examination of a woman who died of puerperal infection and the similarity of the findings in the two cases gave support to his reasoning. He concluded that students who came directly from the dissecting room to the maternity ward carried the infection from mothers who had died of the disease to healthy mothers. He ordered the students to wash their hands

in a solution of chlorinated lime before each examination.

P3: Under these procedures, the mortality rates in the first division dropped from 18.27 to 1.27 percent, and in March and August of 1848 no woman died in childbirth in his division. The younger medical men in Vienna recognized the significance of Semmelweis's discovery and gave him assistance. His superior, on the other hand, was critical—not because he wanted to oppose him but because he failed to understand him.

P4: In 1849 he was dropped from his post at the clinic. He then applied for a teaching post at the university in midwifery but was turned down. Soon after, he gave a successful lecture at the Medical Society of Vienna entitled “The Origin of Puerperal Fever.” At the same time, he applied once more for the teaching post, but although he received it, there were restrictions attached to it that he considered humiliating. He left Vienna and returned to Pest in 1850. He worked for the next six years at the St. Rochus Hospital in Pest. An epidemic of puerperal fever had broken out in the obstetrics department, and, at his request, Semmelweis was put in charge. His measures promptly reduced the mortality rate, and in his years there it averaged only 0.85 percent. In Prague and Vienna, meantime, the rate was still from 10 to 15 percent.

P5: In 1855 he was appointed professor of obstetrics at the University of Pest. He married, had five children, and developed his private practice. His ideas were accepted in Hungary, and the government addressed a circular to all district authorities ordering the introduction of the prophylactic methods of Semmelweis. Vienna remained hostile toward him, and the editor of the *Wiener Medizinische Wochenschrift* wrote that it was

time to stop the nonsense about the chlorine hand wash.

P6: In 1861 Semmelweis published his principal work, *The Etiology, Concept, and Prophylaxis of Childbed Fever*. He sent it to prominent obstetricians and medical societies abroad, but the reaction was adverse. The weight of authority stood against his teachings. He addressed several open letters to professors of medicine in other countries but to little effect. His letters grew increasingly offensive, with expressions of anger, frustration, and bitterness. At a conference of German physicians and natural scientists, most—including the pathologist Rudolf Virchow—rejected his doctrine.

P7: From 1861 onward Semmelweis's mental health deteriorated. The years of controversy had gradually undermined his spirit, and he suffered bouts of severe depression. By 1865 his behaviour had become erratic, possibly because of dementia or advanced syphilis. His colleagues eventually enticed him to a mental institution, whereupon he protested but was taken in by guards. He was beaten severely, placed under confinement, and subjected to treatments with castor oil. He died two weeks into his detention at the asylum. Ironically, his illness and death were caused by the infection of a wound on his right hand. An autopsy revealed that he had died of the same disease against which he had struggled all his professional life.

P8: Semmelweis's doctrine was subsequently accepted by medical science. His influence on the development of knowledge and control of infection was hailed by Joseph Lister, the father of modern antisepsis: "I think with the greatest admiration of him and his achievement and it fills me with joy that at last he is given the respect due to him."

(H) Choose the best answer to the following:

(32) According to paragraph 1, (P1) what circumstance increased the likelihood that some women gave birth in hospitals rather than at home?

- ア They wished to avoid miasma in their homes.
- イ They faced financial, social, and medical difficulties.
- ウ They were discouraged by rising mortality rates in hospitals.
- エ They did not wish for unqualified physicians to assist with childbirth.
- オ They were frightened by the increasing prevalence of puerperal (childbed) fever among new mothers.

(33) What theory did Semmelweis suggest, based on his observations at the maternity clinic?

- ア The death rates from puerperal fever were identical.
- イ His own friend's death was caused by a failed childbirth.
- ウ Medical students were somehow keeping the mothers healthy.
- エ A correlation existed between the students in the first division and the death rates from puerperal fever.
- オ Midwives in the second division who came immediately from the dissecting room had likely caused women to die of the disease.

(34) What is suggested in paragraph 3 (P3) was the reaction to Semmelweis's theory?

- ア wholesale rejection
- イ acceptance, but also rejection
- ウ a dramatic decrease in the deaths of newborns
- エ complete acceptance and a realization of the theory's importance
- オ quick adoption of handwashing practices, thanks largely to Semmelweis's superior

(35) What was the effect of Semmelweis's methods at the St. Rochus Hospital?

- ア They caused another puerperal fever epidemic.
- イ The obstetric death rate fell to less than 1 in 100.
- ウ Unfavorable restrictions were placed on his position.
- エ Hospitals in Prague and Vienna had demonstrably better results.
- オ Though his measures were enacted, puerperal fever was completely eradicated.

(36) In paragraph 5 (P5) what does the term "Vienna" refer to?

- ア the University of Pest's rival campus
- イ the entirety of the city located in Austria
- ウ Semmelweis's trusted colleagues at his old university
- エ the city's medical establishment and professional opinion
- オ only the main editor of the *Wiener Medizinische Wochenschrift*

(37) What is the conflict described in paragraph 6 (P6)?

- ア Semmelweis's anger toward the patients who ignored his advice
- イ the inevitable decline of Semmelweis's once-sharp mental abilities
- ウ a personal dispute between Semmelweis and a prominent pathologist
- エ the historical rejection of unfamiliar ideas when presented to a group by a foreigner
- オ a dissonance between new medical ideas and more traditional and time-honored viewpoints

(38) Which circumstance most directly explains why colleagues confined Semmelweis to a mental institution?

- ア He had become progressively unstable, possibly from illness.
- イ His doctrine had been rejected by Virchow and other scientists.
- ウ His debilitating depression made lecturing almost impossible for him.
- エ He was tricked by those whom he worked with into entering the asylum, for reasons unknown.
- オ He became inexplicably violent, and the guards had no choice but to subdue him for their own safety.

(39) Which theme best captures the tragedy of Semmelweis's end?

ア Scientific progress often triumphs peacefully over tradition.

イ Mental illness can be more dangerous than infectious disease.

ウ Brilliant discoveries can be rejected, leaving their authors isolated.

エ Puerperal fever disappeared entirely only after Semmelweis had died.

オ Progress in medical knowledge can only be achieved by rejecting outdated opinions.