平成29年度
医学科一般入試(前期日程)

問題冊子

英　　語

(注　意)

1. 問題冊子は試験開始の合図があるまで開かないこと。
2. 問題冊子は表紙のほか7ページである。
3. 試験中に問題冊子及び解答用紙の印刷不鮮明，ページの落丁・乱丁等に気付いた場合は，手を挙げて監督者に知らせること。
4. 解答用紙のすべてに受験番号及び氏名をはっきり記入すること。
5. 解答はすべて解答用紙の所定の解答欄に明瞭に記入すること。
6. 解答に関係のないことを書いた答案は，無効にすることがある。
7. 本学受験票を机の右上に出しておくこと。
8. 試験時間は90分である。
9. 問題冊子は持ち帰ってもよいが，解答用紙は持ち帰らないこと。

英　　語 （3問題）

Ⅰ．次の文章を読んで，下の設問に本文の内容に沿って答えよ。記号以外の解答はすべて日本語ですること。右肩に＊印のある語には下に注がある。　（配点　66点）

[1] Barry Marshall and Robin Warren won the Nobel Prize in Medicine or Physiology* in 2005 for discovering that most stomach ulcers* are caused by the bacterium* *Helicobacter pylori*. Despite original resistance to the findings, their work at the Royal Perth Hospital has revolutionized the treatment of gastric* disease.

[2] Plain-speaking(1) Barry Marshall has long been a folk hero in Australia. However, in the years after his 1982 discovery, he was dismissed as a status seeker who was pushing an idea that had no credibility. That boldness, combined with strong determination and a sharp mind, kept alive the unorthodox idea that gastric ulcers could be caused by a bacterial infection.

[3] At the time, ulcers were treated with drugs that reduced the amount of acid released into the stomach. The drugs worked, so acidity was assumed to cause ulcers, but Warren had noticed spiral-shaped* bacteria in stomach tissues taken from patients with gastric ulcers, and that these were always associated with inflammation*. He was convinced that the bacteria were linked to the ulcers.

[4] He recruited Marshall, a young medical intern, to isolate and grow the bacteria in the lab. The bacteria looked like *Campylobacter*, a newly discovered family known to cause gut infection in poultry. However, Marshall's initial attempts in 1982 failed — until Easter, when culture(2) dishes were accidentally left over the four-day break. It turned out that the bacteria grow extremely slowly, and earlier attempts had simply been abandoned too soon. The bacteria were then shown not to be *Campylobacter*, but an entirely new type of bacteria, named *Helicobacter*.

[5] Marshall and Warren went on to show that patients with ulcers can be treated with antibiotics*. Unlike patients given acid-suppressing drugs, their ulcers do not return. However, gastric specialists resisted the idea. They seemed insulted, saying, "We are being asked to treat stomach ulcers with antibiotics!" It was hard for them to accept that the disease could be a simple infection. Drug companies that profited from the anti-ulcer drug market were also actively resistant. Even some bacteriologists were suspicious — the stomach had long been assumed too acidic to host bacteria.

[6] In frustration, Marshall did (3)the ultimate cause-and-effect experiment. He swallowed a (4)solution containing the bacteria, and promptly came down with an aggressive attack of the sort of gastritis (inflammation) that leads to ulcers. He then took an antibiotic that cleared up his condition. "My colleagues were alarmed, and so was my wife," he recalls.

[7] Marshall's direct attacks on doubters (5)did little to soften critics. (6)Their prejudices were deepened by his youth, and the fact that Perth had no strong academic reputation. (7)"Fortunately, I'm very thick-skinned," he says. "There was also an advantage to being isolated in Perth. I don't think I realized just how (8)heavy the opposition was." His untiring efforts, and further research with Warren, subsequently repeated and extended around the world, eventually won the day. In 1991, a meeting of the Centers for Disease Control and Prevention in Atlanta, Georgia, formally declared the link between *H. pylori* and gastric disease.

[8] It is now accepted that most gastric ulcers are caused by *H. pylori*. The bacterium is usually acquired in childhood, being transferred between family members. It remains inactive until adulthood. Untreated cases can lead to gastric cancer.

(https://www.nature.com/articles/437801 a より改変引用。)

注 physiology＝生理学
ulcer(s)＝潰瘍(かいよう)
bacterium (単数形) < bacteria(複数形)＝バクテリア
gastric＝胃の
spiral-shaped＝らせん形の
inflammation＝炎症
antibiotic(s)＝抗生物質

設問 1. What does underlined item (1) Plain-speaking mean in this context?

A. speaking directly and politely

B. speaking honestly without trying to be polite

C. speaking with clear pronunciation

D. speaking without a regional accent

設問 2. Why was Marshall at first unsuccessful at growing the bacteria that he suspected was the cause of stomach ulcers?

設問 3. What kind of drugs had been used to treat gastric ulcer before Marshall's theory was generally accepted, and why?

設問 4. What does underlined item (2) culture mean in this context?

A. the arts of human intellectual achievement regarded collectively

B. the attitudes and behavioral characteristics of a particular group of people

C. the growth of life forms in an artificial medium

D. the growth of cells in the human body

設問 5. What does underlined item (3) the ultimate cause-and-effect experiment mean in this context?

設問 6. What does underlined item (4) solution mean in this context?

A. products designed to meet a particular need

B. a means of solving a problem

C. a liquid mixture

D. a solid mixture

設問 7. List three groups that resisted the theory based on Marshall and Warren's findings.

設問 8. What does underlined item (5) did little to soften critics mean in this context?

設問 9. What does underlined item (6) Their prejudices were deepened by his youth mean in this context?

A. Because of his age, they considered his idea even less seriously.

B. Some questioned his scientific motivations, accusing him of trying to get attention for himself, and his youth decreased that.

C. Some thought better of him because of his youthful directness.

D. They were curious about his brilliant discovery, made by such a young researcher.

設問10. What does underlined item (7) Fortunately, I'm very thick-skinned mean in this context?

設問11. What does underlined item (8) heavy mean in this context?

A. down emotionally

B. very strong

C. of great weight

D. full of something

設問12. Choose two statements that accord with the passage:

A. It was Robin Warren that originally had the idea that stomach ulcers in humans might be caused by bacteria.

B. Barry Marshall succeeded in growing the ulcer-causing bacteria in culture owing to his perfect control of the experiment.

C. It took almost ten years for Warren and Marshall's discovery to be officially accepted as authentic.

D. The stomach is too acidic to keep bacteria alive.

E. The sharpest resistance to Warren and Marshall's findings came from bacteriologists.

F. It is now universally known that ulcers, without exception, are caused by bacterial infection.

Ⅱ．次の文章を読んで，下の設問に本文の内容に沿って答えよ。記号以外の解答はすべて日本語ですること。右肩に＊印のある語には下に注がある。　（配点　94 点）

Luiz Rocha discusses his views on ocean conservation:

[1] I have spent my entire life trying to get new protected areas in the world's oceans. However, a disturbing trend has convinced me that we are protecting very little of real importance with our current approach.

[2] From Hawaii to Brazil to Britain, the establishment of large marine protected areas, thousands of square miles in size, is on the rise. These areas are set aside by governments to protect fisheries* and ecosystems; human activities within them generally are managed or restricted. While these vast expanses of open ocean (1) are important, their protection should not come before coastal waters are secured, but in some cases, that (2) is what is happening.

[3] Near-shore waters have a greater diversity of species and face more immediate threats from gas and oil wells, tourism, and overfishing. If we leave these places at risk, we are not really accomplishing the goal of protecting the seas.

[4] As the United States reverses its course in making environmental protections, other countries are making news by safeguarding remote expanses in efforts to meet or even surpass United Nations agreements to protect 10 percent of marine areas by 2020. We should not continue praising countries that are simply drawing a line around relatively empty waters where protections are neither essential nor most effective to meet a target. Instead we need to do the harder work of safeguarding the most threatened regions of the ocean — the coastlines — even if they are smaller.

[5] Last year, for example, Chile created a marine protected area that stretched 278,000 square miles around Easter Island. It is impressive in scope, but the protected area still allows fishing in the coastal waters that are the habitat* of unique species requiring the most protection. This misguided action was praised as a win for marine conservation.

[6] Protecting coastal areas is critical because they are where most of the ocean's biodiversity* occurs. For example, coral reefs*— which are a coastal habitat — cover less than one-tenth of one percent of the ocean floor, but are home to 25 percent of all marine species.

[7] Mexico, Palau, the UK, and, most recently, the Seychelles have also set aside protected areas in their waters but have allowed some fishing to continue as before. In 2018, Brazil announced that it would establish two major protected areas in the Atlantic Ocean.

[8] Those areas — totaling almost 350,000 square miles — will include islands some 600 miles offshore and increase Brazil's protected areas to nearly 25 percent of its waters from about 1.5 percent now. The Ministry of the Environment is creating a circle of protection 400 miles in diameter around those islands without actually protecting much of anything. Fishing, both recreational and commercial, will still be allowed within most of those areas, and only a small portion of the coastal habitats surrounding the islands, the most critical to safeguard, will actually be protected from fishing, and oil and gas exploration. (3) All the while, dozens of other proposals for protected zones in coastal Brazil (including a proposal of my own), some as small as one square mile, have gone nowhere.

[9] The United States has pursued this (4) "just add water" approach, too. In 2006, President George W. Bush created the Papahanaumokuakea Marine National Monument, covering 140,000 square miles around the northwestern Hawaiian Islands. By all measures, this was a great move because it fully protected all coral reefs in the monument. Ten years later, President Barack Obama expanded it into the open ocean, increasing its size by a factor of four. This action was celebrated for providing critical protection for coral reefs, but in reality the reefs had been safe since President Bush selected the original area.

[10] Some argue that these open-ocean protected areas harbor hundreds of ocean-going species. While that is true, even the most effectively enforced of these areas fail to fully protect species like tuna, whose cruising speed of 10 miles an hour means that they can cross a protected area in mere days. The expansion of Papahanaumokuakea, for example, has not affected Hawaii's annual yield of open-ocean tuna catches.

[11] By setting aside large protected areas in parts of the ocean that are not heavily fished, countries have ignored their international obligation to pursue science-based conservation and protect places where threatened species spawn* or feed. Instead, they have given the public (5) a false sense of accomplishment.

[12] Where do we go from here?(6) First, countries should create protected areas only where they can make a real difference in safeguarding marine life: highly diverse coastal habitats, spawning areas and feeding spots. This year, for example, Honduras announced the creation of a critically important protected area in Tela Bay in the Caribbean. Although it is very small in comparison to other reserves — only some 300 square miles — it is a huge victory for marine conservation. The government has devised a solution that will reduce unsustainable fishing practices while supporting alternative ways to make a living in coastal communities.

[13] We need more science-based conservation,(7) not convenient conservation.(8) Countries should focus on areas where fish spawn and feed amid threats from energy development, tourism, development, habitat destruction and fishing. Second, we need carefully written rules setting sustainable catch limits and requiring commercial fishing gear that avoids catching unwanted fish and other marine creatures. Since, for example, tunas swim across large parts of the ocean,(9) setting aside protected areas that miss much of that broad habitat will fail to protect them from overfishing.

[14] This "just add water" approach to marine protection is problematic for conservation that is failing to protect the areas of our oceans that require our immediate attention.

(https://www.nytimes.com/2018/03/20/opinion/environment-ocean-conservation.html?rref=collection%2Fsectioncollection%2Fscience&action=click&contentCollection=science&region=stream&module=stream unit&version=latest&contentPlacement=47&pgtype=sectionfront より改変引用)

注 fisheries＝漁場，漁業
habitat＝(生物を取り巻く)環境，生息地
biodiversity＝生物(の)多様性
coral reef(s)＝サンゴ礁(しょう)
spawn＝(魚・カエルなどが)卵を産む

設問 1. What does underlined item open ocean(1) mean?

設問 2. What does underlined item that(2) refer to?

A. a recognition of the importance of protecting near-shore waters
B. the protection of vast expanses of open ocean preceding that of coastal waters
C. the parallel protection of coastal waters and large expanses including remote areas
D. the protection of coastal waters before that of remote expanses of water

設問 3. List three activities that Rocha implies might cause damage to oceans.

設問 4. How would Rocha have improved the creation of a new protected area in Chile?

設問 5. What is an area of concern for Rocha regarding Brazil's new Atlantic Ocean protected areas?

A. Industry would be negatively impacted by the creation of the new protected areas.

B. Very little of critical importance will be protected.

C. The wrong type of local habitats will be protected.

D. Too large of an ocean area will be protected.

設問 6. Translate underlined item (3) All the while, dozens of other proposals for protected zones in coastal Brazil (including a proposal of my own), some as small as one square mile, have gone nowhere.

設問 7. What does underlined item (4) just add water mean in this context?

設問 8. What happened to Hawaii's annual yield of tuna after the expansion of the Papahanaumokuakea Marine National Monument, and why?

設問 9. What does underlined item (5) a false sense of accomplishment mean in this context?

設問10. What does underlined item (6) Where do we go from here? mean in this context?

設問11. What does underlined item (7) science-based conservation mean in this context?

設問12. What does underlined item (8) convenient conservation mean in this context?

設問13. List two specific changes in fishing practices that Rocha suggests would be less harmful to the marine environment.

設問14. Translate underlined item (9) Since, for example, tunas swim across large parts of the ocean, setting aside protected areas that miss much of that broad habitat will fail to protect them from overfishing.

Ⅲ. 以下の文章を，著者の意図を解釈して英訳せよ。ただし（ ）内は訳さなくてよい。

（配点　40 点）

（同僚の飛行操縦士メルモスを事故で失って）

何ものも，あの多くの共通の思い出，ともに生きてきたあのおびただしい困難な時間，あの度々の仲違いや仲直りや，心のときめきの宝物の貴さにはおよばない。この種の友情は，二度とは得がたいものだ。樫（かし）の木を植えて，すぐその葉かげに憩おうとしてもそれは無理だ。

（中略）

真の贅沢（ぜいたく）というものは，ただ一つしかない。それは人間関係の贅沢だ。

（サン＝テグジュペリ，『人間の大地』 堀口大學訳，新潮文庫，p.45 より改変引用。）