

B・M

平成 22 年度個別学力試験問題(医学部・医学科)

英 語

前 期 日 程

注 意 事 項

- 1 試験開始の合図があるまで、この問題冊子の中を見てはいけません。
- 2 この問題冊子は、7 ページあります。解答用紙は 3 枚あります。問題は I から III まで 3 題あります。3 題すべてに解答しなさい。
試験中に問題冊子の印刷不鮮明、ページの乱丁・落丁および解答用紙の汚れ等に気づいた場合は、手を挙げて監督者に知らせなさい。
- 3 監督者の指示に従って、解答用紙に受験番号を記入しなさい。
- 4 解答は、解答用紙の該当欄に記入しなさい。
- 5 配付された解答用紙は持ち帰ってははいけません。
- 6 試験終了後、問題冊子は持ち帰りなさい。

I 以下の「病原菌の発見」についての文章を読み、設問に答えよ。

Throughout history, people have created explanations for disease. Many diseases have been seen as being spiritual in origin—a punishment for a person’s sins or as the capricious behavior of gods or spirits. From ancient times, the most commonly held biological theory was that illness was attributable to some sort of imbalance of body humors (hypothetical fluids that were described by their effects, but not identified chemically). Hence, for thousands of years the treatment of disease consisted of appealing to supernatural powers through offerings, sacrifice, and prayer, or of trying to adjust the body humors by inducing vomiting, bleeding, or purging*¹. However, the introduction of germ theory in the nineteenth century radically changed the explanation of what causes diseases, as well as the nature of their treatment.

As early as the sixteenth century, there was speculation that diseases had natural causes and that the agents of disease were external to the body, and therefore that medical science should consist of identifying those agents and finding chemicals to counteract them. But [be / of / some / that / might / no one / suspected / invisible organisms / the disease-causing agents]⁽¹⁾, since such organisms had not yet been discovered, or even imagined. The improvement of microscope lenses and design in the seventeenth century led to discovery of a vast new world of microscopically small plants and animals, among them bacteria and yeasts. The discovery of those microorganisms, however, did not suggest what effects they might have on humans and other organisms.

The name most closely associated with the germ theory of disease is that of Louis Pasteur*², a French chemist. The connection between microorganisms and disease is not immediately apparent—especially since (as we know now) most

microorganisms do not cause disease and many are beneficial to us. Pasteur came to the discovery of the role of microorganisms through his studies of what causes milk and wine to spoil. He proved that spoilage and fermentation*³ occur when microorganisms enter them from the air, multiplying rapidly and producing waste products. He showed that [if / it / of / out / food / kept / spoil / were / would not / microorganisms]⁽²⁾ or if they were destroyed by heat.

Turning to the study of animal diseases to find practical cures, Pasteur again showed that microorganisms were involved. In the process, he found that infection by disease organisms — germs — caused the body to build up an immunity against subsequent infection by the same organisms, and that it was possible to produce vaccines that would induce the body to build immunity to a disease without actually causing the disease itself.⁽³⁾ Pasteur did not actually demonstrate rigorously that a particular disease was caused by a particular, identifiable germ; that work was soon accomplished, however, by other scientists.

The consequences of the acceptance of the germ theory of disease were enormous for both science and society. Biologists turned to the identification and investigation of microorganisms, discovering thousands of different bacteria and viruses and gaining a deeper understanding of the interactions between organisms. The practical result was a gradual change in human health practices — the safe handling of food and water; pasteurization*⁴ of milk; and the use of sanitation measures, quarantine*⁵, immunization, and antiseptic*⁶ surgical procedures — as well as the virtual elimination of some diseases. Today, the modern technology of high-power imaging and biotechnology make it possible to investigate how microorganisms cause disease, how the immune system combats them, and even how they can be manipulated genetically.

出典：AAAS Project 2061, *Science for All Americans* (1990).

purging*¹ : to cause the body to release all waste products

Louis Pasteur*² : a French chemist (1822–1895)

fermentation*³ : a process of allowing bacteria to grow in something as it
ages, such as wine, cheese, or *natto*

pasteurization*⁴ : heating something to a certain point and then cooling it
quickly in order to kill bacteria — often done with milk

quarantine*⁵ : putting someone or something into isolation — removing them or
it from contact with others

antiseptic*⁶ : clean; sterile; an absence of bacteria or germs

問 1 第 1 段落の内容によると、人々は病の原因をどのようなものと考え、どのよ
うな治療をおこなっていたか、宗教的側面と生物学的側面から日本語で表にま
とめよ。ただし、「生物学的側面」からの「原因」は、すでに答えが与えられてい
る。

問 2 下線部(1)と(2)の[]内の語を並び替え、前後の内容とあう英文を完成させ
よ。

問 3 下線部(3)を日本語に訳せ。

問 4 下記 a～d の記述が、本文の内容にあっていれば T を、あっていなければ F を記入せよ。

- a 今では病気の原因を宗教的なものに求める人は誰もいない。
- b 顕微鏡開発の恩恵により、17 世紀には、微生物が人間やその他の生物にどのような効果をもたらすかが、すでに明らかになっていた。
- c 大半の微生物は病気を引き起こさず、我々にとって有益なものも多いため、微生物と病気との関連は、すぐにはみえてこない。
- d パストゥールは、特定の病気が特定の同定可能な病原菌によって引き起こされることを、厳密に実証した。

問 5 最終段落の内容を 120 字程度の日本語でまとめよ。句読点も 1 字と数えること。

II 次の英文を読み、設問に答えよ。

War is an exceedingly complex phenomenon. There are many kinds of war. In a sense, each war is different from every other. There are also major types of war. Perhaps there are three main categories of warfare: limited war, civil war, and total war.

(ア) The combatants may possess limited resources. (イ) They may be willing to employ all of their resources, for which reason limited wars may be in a sense total wars, but the paucity of means keeps the combatants from doing as much damage as they might like to do. (1) (ウ) Other wars are limited because one of the combatants chooses to make them so. Still other wars are limited because stronger neighbors insist that they be so. (エ) Small wars break out from time to time in Africa, Asia, and Central America, but they are not allowed by the so-called Great Powers to spread and become total. (オ) Such wars may be very destructive and continue for a long time, but they do not constitute a real peril to the life of the world. At least this has been true in the past.

Civil wars, like fights between close friends or members of a family, tend to become particularly vicious and destructive. They are often total, in the sense that the combatants do as much damage to one another as they are able to. However, by definition, the arena of a civil war is limited. It is fought within an area that is often small, between groups that have limited goals. Civil war has not been really perilous to the entire world either, at least until now. Such wars are terrible scourges for the countries where they occur, but they have not endangered the human race. (2)

Total war is war between major groups of the human species which are willing to employ all of their resources of men, money, and material for the attainment of the ultimate goal, which is simply victory. If the price of victory is (3) the total destruction of the life and wealth of both sides, so be it. Such wars have imperiled the world but so far have not been able to destroy it. So far, too,

they have not been fought with nuclear weapons.

The peril of a total war between two combatants possessing nuclear weapons is recognized by everyone. So far, no one has figured out what to do about it. A nation's nuclear weapons are usually controlled by the mind and will of a single individual. Perhaps a dozen individuals in the world during the last decade of the twentieth century have the capacity to start such a war and to bring on its attendant peril. Will any of them do it?

There is little more to say now than that we hope not. Reason, of course, is on our side. It would not be reasonable for any of the handful of individuals who are able to do it to start a nuclear war. Such a war, it seems, could not be won in the usual sense of winning. That is, no aim except simply victory could be attained. And is it truly victory if everyone is destroyed and you are merely the last to perish?

出典：Charles Van Doren, *A History of Knowledge* (1991).

問 1 下線部(1)~(3)の各語に最も意味が近いものを、それぞれ(A)~(D)のうちから1つ選び、その記号を書け。

(1) paucity

(A) surplus (B) existence (C) excess (D) lack

(2) scourges

(A) mistakes (B) troubles (C) behaviors (D) news

(3) attainment

(A) realization (B) attraction (C) conquest (D) ability

問 2 以下の文は、第 2 段落のどの位置に補うのが最も適切か。(ア)～(オ)のうちから 1 つ選び、その記号を書け。

Wars are limited for various reasons.

問 3 第 3 段落と第 4 段落の内容から、“civil war”(内戦)と“total war”(全面戦争)との違いを、2つの観点(①敵対し合っている集団の性質、②世界全体に及ぼす影響)から、それぞれ 70 字以内の日本語で説明せよ。ただし、「内戦は…だが、全面戦争は…である。」という形式で書くこと。句読点も 1 字と数えること。

問 4 第 6 段落の内容から、核戦争についての筆者の考えを、100 字以内の日本語で要約せよ。句読点も 1 字と数えること。

Ⅲ 戦争を防ぐためには何が必要か。あなたの具体的なアイデアを 2 つ挙げ、80 語程度の英語で書け。最初の文は与えてあるが、語数には含まない。