

秋田大学

CM

平成 28 年度個別学力検査問題(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、11 ページあります。解答用紙は 3 枚、下書き用の白紙は 1 枚あります。問題は 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付いた場合は、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いけません。
- 6 試験終了後、問題冊子は持ち帰りなさい。

Ⅱ 次の英文は、富士山の噴火に備え、政府が有識者らによる検討会の設置を予定していることを報じたものである。文章を読み、設問に答えよ。

Govt panel to plan for eruption of Mt. Fuji

The Cabinet Office will launch an expert panel next fiscal year tasked with discussing how to deal with ash fall on Tokyo and neighboring areas that could ensue from a major eruption at Mt. Fuji.

There may currently be pressure inside the magma chamber of Mt. Fuji, according to some experts. The last time the nation's highest peak (erupted / erupting)⁽¹⁾ was more than 300 years ago. Before then, eruptions were frequent.

There are no obvious signs of a pending eruption at Mt. Fuji. (2), failure to predict last year's deadly eruption at Mt. Ontake*¹ has served as a bitter lesson for the government. The planned panel is part of an effort to discuss specific responses to a predicted massive fall of volcanic ash while Mt. Fuji is inactive.

Volcanic ash was released for 16 straight days after the 1707 Hoei eruption of Mt. Fuji*² in the Edo period (1603-1867), according to the Cabinet Office. The city of Edo, now Tokyo, which was about 100 kilometers away, is said to have seen several centimeters of accumulated volcanic ash.

While Mt. Fuji has remained dormant⁽³⁾ since then, the Cabinet Office placed weight on the fact that volcanoes across the country have grown more active since the eruption of Mt. Ontake in September. Under such circumstances⁽⁴⁾, the office allocated ¥44 million for relevant research in the fiscal 2015 budget to study measures to cope with such situations as a disruption of traffic networks and the collapse of houses.

Low-frequency temblors*³, which indicate a shift of subterranean magma, rapidly increased at Mt. Fuji in 2000 and 2001. (6 ⁽⁵⁾), eruption monitoring systems for the volcano were enhanced. Currently, seismometers are installed at 19 locations on the mountain to detect volcano-related seismic activity. Mt. Fuji also is kept under surveillance*⁴ with about 20 other devices to measure tectonic*⁵ movements, such as tiltmeters*⁶ and strainmeters*⁷, as well as cameras providing live feeds, to detect any abnormal situations.

The Japan Meteorological Agency's volcano section said no data currently exist that suggest the mountain has become active, and the mountain is presently quiet.

(8), if Mt. Fuji does erupt, it will cause enormous damage.

Last year, a wide-scale comprehensive evacuation plan for an eruption of Mt. Fuji was compiled by a disaster prevention council comprising officials from the prefectural governments of Shizuoka, Yamanashi and Kanagawa and other organizations. According to the plan, up to 470,000 residents (lived / living) in areas expected to receive more than 30 centimeters of volcanic ash need to evacuate, and there also is concern about health damage. One set of data shows that only one or two centimeters of dry ash or several millimeters of wet ash blanketing the ground surface will make roads impassable for vehicles. Such an eruption would likely have a major effect on the Tokaido Shinkansen, air traffic and business activities.

The envisaged panel will create guidelines for work to remove a large amount of fallen ash and a plan for ash disposal. (12), it will consider conducting a hearing survey around Sakurajima Island in Kagoshima Prefecture to study the impact of ash on the lives of citizens, and (implemented / implementing) driving tests of automobiles on an ash-covered road.

In areas (surrounded / surrounding) Sakurajima Island, one of the nation's most active volcanoes, measures to reduce the negative effects of volcanic activities on the lives of citizens are necessary.

According to the Kagoshima Meteorological Office, about 700 to 1,400 explosive eruptions have been observed on the island every year since 2009, and the amount of volcanic ash released from the island is estimated at 6.5 million tons in 2013 and 3.3 million in 2014.

In Kagoshima, which receives ash from the island mainly in summer, when the wind is in the east, volcanic ash often darkens the city even during the day. It is necessary to clean up traffic signals at least twice a day for streetcars in the city, and as they become filled with volcanic ash. "Workers sometimes are deployed at those points all day," an official at the Kagoshima municipal government said.

It also is necessary to take preventative measures for the waterworks system. The city installed covers for a sedimentation basin*8 and other facilities at a water treatment plant near Sakurajima Island to prevent ash from (entered / entering) and sometimes regulates water intake.

出典：The Japan News, February 9, 2015 (一部改変)

Mt. Ontake*1 = 御嶽山

the 1707 Hoei eruption of Mt. Fuji*2 = 1707年富士山宝永噴火

tumbler*3 = 地震

surveillance*4 = 監視

tectonic*5 = 地殻変動の

tiltmeter*6 = 傾斜計

strainmeter*7 = ひずみ計

sedimentation basin*8 = 沈殿池

問 1 (1), (10), (13), (14), (18) について, それぞれ適切な形を選べ。

問 2 (2), (6), (8), (12) に入る語句を以下の選択肢から選び, その記号を書け。なお選択肢の語句は 2 度使ってもよい。

- (a) However (b) Meanwhile (c) As a result

問 3 下線部 (3), (5), (7), (11), (15) について, それぞれの語の定義を以下の選択肢から選び, その記号を書け。

- (a) shattering or bursting apart
(b) beneath the surface of the Earth
(c) relating to or caused by earthquakes
(d) not active or not growing at the present time but able to be active later
(e) cannot be traveled on or through, especially because it is in bad condition or it has been blocked by something

問 4 二重下線部 (4), (9), (16), (17) について, それぞれの語句が指す内容を日本語で説明せよ。

Ⅱ 次の英文を読み、以下の設問に答えよ。

Life-saving drugs for all can be achieved

[1] The deadly outbreak of Ebola in Liberia, Sierra Leone and Guinea that began last year highlighted a problem in the production of pharmaceuticals*¹. Once it became clear that the epidemic*² would not be rapidly contained, several firms quickly arranged for clinical trials of potential treatments and vaccines, indicating that they already had the ability to produce plausible candidates.

[2] Ebola is not a new disease: it was first identified in 1976. Prior to 2014, however, the largest outbreak was in Uganda, in 2000, when 425 people were infected and 224 died. Though Ebola was known to be both contagious*³ and often fatal, it was thought that only Africa's impoverished*⁴ rural population was at risk. For pharmaceutical firms, the development of a vaccine or treatment was not commercially attractive, and so it did not warrant investment.

[3] All that changed with the latest outbreak. In September 2014, the U.S. Centers for Disease Control and Prevention predicted that, in the worst case, 1.4 million people could be infected within four months. Media-fed fears that the disease could spread to affluent countries led to extraordinary precautions. In the United States, President Barack Obama asked Congress for \$6.2 billion, including \$2.4 billion to reduce the risk of the disease becoming established in America and set up 50 U.S. Ebola treatment centers.

[4] The worst-case scenario did not materialize. As of last month, the best estimate is that about 25,000 people have been infected, with approximately 10,000 deaths. Outside West Africa, there have been fewer than 30 cases, and only five deaths. Nevertheless, the fears, and especially the prospect of a new

and lucrative^{*5} market, set pharmaceutical firms scrambling to develop Ebola-related products, while health officials lamented^{*6} that nothing had been done beforehand.

[5] I am not criticizing pharmaceutical companies for not producing an Ebola vaccine when there was no market for it. They are not charities. If we want them to make products that will help the poor in developing countries, we need to find ways of giving them—and their shareholders—a return on their investment.

[6] Whereas pharmaceutical companies lack incentives to aid the poor in developing countries, they have strong incentives to develop products for people in affluent countries. One drug, Soliris^{*7}, costs \$440,000 per patient per year. In contrast, GiveWell^{*8} estimates that the cost of saving a life by distributing bed nets in regions where malaria is a major killer is \$3,400. Given that most of the lives saved are those of children, who even in developing countries have a life expectancy of at least 50 years, this equates to a cost of \$68 per year of life saved. Should we ((a) of an impoverished child / (b) at more than 6,000 times / (c) in a developing country / (d) in an affluent country / (e) really be valuing / (f) the life of a person / (g) the value of the life)?

[7] Because the overwhelming majority of medical and pharmaceutical research is directed toward products that affect people in affluent countries, it targets only part of the global burden of disease. Some government- and foundation-funded research addresses diseases that primarily affect poor people, but these efforts are not systematic and do not use the incentives that work well to drive pharmaceutical innovation elsewhere.

[8] One promising attempt to correct this imbalance is the proposal for a Health Impact Fund that Thomas Pogge, director of the Global Justice Program at Yale, and Aidan Hollis, an economist at the University of Calgary, launched seven years ago. If the Health Impact Fund could be adequately financed, it would provide incentives to develop products in proportion to their impact in reducing the global burden of disease.

[9] It is not certain that the existence of such a fund prior to the recent Ebola outbreak would have led to the development of vaccines or treatments for the disease. But pharmaceutical companies would have been considering such products — as well as other treatments to save lives or improve health anywhere in the world, regardless of people’s ability to pay.

[10] Pogge and Hollis have now refined their proposal to the point that it is ready for a real-world trial. A company that develops a product would earn a share of reward money based on its share of the health improvements achieved by all the products competing for the available funds. What is still needed, however, is sufficient reward money — perhaps \$100 million from governments, NGOs, foundations and the pharmaceutical industry — to stimulate serious investment.

[11] Such a pilot program would benefit poor patients and would test scientists’ ability to measure health impact fairly and accurately. It would also provide the evidence needed to go to governments, foundations and global institutions for the much larger sums required to expand the present system of incentives that guide pharmaceutical companies’ decisions. If the pilot is successful, we will have found a way to support the development of drugs and vaccines that gives equal weight to protecting the lives and improving the health of all human beings, irrespective of their nationality or wealth.

出典：Peter Singer, “Life-saving drugs for all can be achieved”,
The Japan Times, May 16, 2015 (一部改変)

pharmaceuticals*¹ = 医薬品

epidemic*² = 流行(伝染)病

contagious*³ = 伝染性の

impoverished*⁴ = 貧しい

lucrative*⁵ = 儲かる

lamented*⁶ = 嘆いた, 後悔した

Soliris*⁷ = 発作性夜間ヘモグロビン尿症の治療薬

GiveWell*⁸ = 米国の非営利慈善評価団体

問 1 段落[1]の contain にもっとも近い意味の単語を以下の選択肢から選び、その記号を書け。

- (a) enclose (b) spread (c) suppress (d) recover

問 2 段落[2]の fatal の同義語を以下の選択肢から選び、その記号を書け。

- (a) dangerous (b) deadly (c) disastrous (d) fateful

問 3 段落[3]の All that を本文の内容に即して、100字以内の日本語で説明せよ。

問 4 段落[5]の charities の同義語を以下の選択肢から選び、その記号を書け。

- (a) government offices (b) non-profit organizations
(c) private corporations (d) research institutes

問 5 段落[6]の括弧内に与えられている語句は、順序が不適切である。もっとも適切な表現になるように、記号(a)~(g)を並べ替えよ。

問 6 段落[7]の address にもっとも近い意味で用いられている表現を以下の選択肢から選び、その記号を書け。

- (a) address a large audience (b) address a letter
(c) address a problem (d) address a person

問 7 以下の英文が本文の内容に合っていれば(T)、間違っている場合は(F)を書け。

- (1) At least one weakness in the drug industry was revealed by a recent Ebola outbreak in parts of Africa.
(2) The most recent outbreak of Ebola was limited to Uganda.
(3) The author claims that Ebola vaccines or treatments would have been developed quickly if a Health Impact Fund had existed before the recent Ebola outbreak.
(4) The author seems to suggest that human lives in rich countries are valued more highly than human lives in poor countries.
(5) According to paragraph [10], under a new proposal, if a company produces a drug, the company can receive a \$100 million reward.

問 8 本文の内容に即して、()に入るもっとも適切な表現を以下の選択肢から選び、その記号を書け。

- (1) Ebola ().
(a) has existed for at least 50 years
(b) recently killed about 10,000 people in Africa
(c) is neither contagious nor often fatal
(d) is relatively easy to control

- (2) The author seems to believe that ().
- (a) drug-making companies have an obligation to produce drugs even when there is no market for them
 - (b) drug-making companies are not highly motivated to develop medicine for people in wealthy countries
 - (c) drug-making companies cannot be expected to produce drugs for free
 - (d) Congress must give \$6.2 billion for Ebola drugs
- (3) In paragraph [4], the expression “worst-case scenario” refers to ().
- (a) well over one million people infected with Ebola in under half a year
 - (b) over one million Ebola deaths in the next two years
 - (c) a need to spend \$6.2 billion on new drug development
 - (d) a need to build 50 Ebola treatment centers in the U.S.
- (4) The main point of paragraph [8] could be said to be that () correcting the global health imbalance.
- (a) nobody has taken any action on
 - (b) only university researchers are capable of
 - (c) two people have proposed a way of
 - (d) there is not enough money available for
- (5) The author appears to value () over ().
- (a) global health equality / drugmaker profits
 - (b) airplane pilots / drugmaker profits
 - (c) drugmaker profits / global health equality
 - (d) scientists’ abilities / global health equality

III Newspapers have recently reported that unnecessary ambulance use has become a burden on the finances of local governments. Some people insist that part of the unnecessary ambulance use charge should be paid by those users. Are you for or against this opinion? Answer in English, in 80 to 100 words, starting by stating your position. Give at least two reasons for your opinion.