

平成 28 年 度

試 験 問 題 ②

学 科 試 験

(9 時 ~ 12 時)

【注 意】

1. 試験開始の合図があるまで、この問題冊子の中をみてはならない。
2. 試験教科、試験科目、ページ、解答用紙および選択方法は下表のとおりである。

| 教 科 | 科 目 | ペー ジ | 解 答 用 紙 数 | 選 択 方 法 |
|-----|-----|---------|-----------|--|
| 数 学 | 数 学 | 1 ~ 12 | 1 枚 | 数学、英語は必須解答とする。 理科は左の 3 科目のうちから 1 科目を選択せよ。 |
| 英 語 | 英 語 | 13 ~ 16 | 1 枚 | |
| 理 科 | 化 学 | 17 ~ 28 | 2 枚 | |
| | 生 物 | 29 ~ 40 | 3 枚 | |
| | 物 理 | 41 ~ 50 | 1 枚 | |

3. 監督者の指示に従って、選択しない理科科目を含む全解答用紙(8枚)に受験番号と選択科目(理科のみ)を記入せよ。
 - ① 受験番号欄に受験番号を記入せよ。
 - ② 理科は選択科目記入欄に選択する 1 科目を○印で示せ。

上記①、②の記入がないもの、および理科 2 科目または理科 3 科目選択した場合は答案全部を無効とする。
4. 解答はすべて解答用紙の対応する場所に記入せよ。
5. 問題冊子の余白を使って、計算等を行ってもよい。
6. 試験開始後、問題冊子の印刷不鮮明、ページの落丁・乱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よ。
7. 解答用紙はいずれのページも切り離してはならない。
8. 解答用紙は持ち帰ってはならない。問題冊子は持ち帰ってよい。

英 語

次の英文を読んで、設問に答えよ。(*印の語には注がある。)

(1)Socially stratified societies, including modern American and European society, consist of farmers who produce food, plus non-farmers such as bureaucrats* and soldiers who do not produce food but merely consume the food grown by the farmers and are in effect living off the work of the farmers. Hence in any stratified society the farmers must grow enough extra food to meet not only their own needs but also those of the other consumers. The number of non-producing consumers that can be supported depends on the society's agricultural productivity. In the United States today, with its highly efficient agriculture, farmers make up only 2% of our population, and each farmer can feed on the average 125 other people (American non-farmers plus people in export markets overseas). Ancient Egyptian agriculture, although much less efficient than modern mechanized agriculture, was still efficient enough for an Egyptian peasant to produce five times the food required for himself and his family. But a Maya peasant could produce only twice the needs of himself and his family. At least 70% of Maya society consisted of peasants. That's because Maya agriculture suffered from several limitations.

First, (2)it yielded little protein. Corn, by far the dominant crop, has a lower protein content than the Old World* staples* of wheat and barley. The few edible* domestic animals included no large ones and yielded much less meat than did Old World cows, sheep, pigs, and goats. The Maya depended on (3)a narrower range of crops than did Andean* farmers (who in addition to corn also had potatoes, high-protein quinoa*, and many other plants, plus llamas* for meat), and much narrower again than the variety of crops in China and in western Eurasia.

Another limitation was that Maya corn agriculture was less (4)intensive and productive than the Aztecs' chinampas* (a very productive type of raised-field agriculture), the raised fields of the Tiwanaku civilization of the Andes, Moche irrigation* on the coast of Peru, or fields tilled by animal-drawn plows over much of

Eurasia.

Still a further limitation arose from the humid climate of the Maya area, which made it difficult to store corn beyond a year, whereas the Anasazi living in the dry climate of the U.S. Southwest could store it for three years.

Finally, unlike Andean Indians with their llamas, and unlike Old World peoples with their horses, oxen, donkeys, and camels, the Maya had no animal-powered transport or plows. All ground transport for the Maya went on the backs of human porters*. But (5)if you send out a porter carrying a load of corn to accompany an army into the field, some of that load of corn is required to feed the porter himself on the trip out, and some more to feed him on the trip back, leaving only a small part of the load available to feed the army. The longer the trip, the less of the load is left over from the porter's own requirements. Beyond a trip of a few days to a week, it becomes uneconomical to send porters carrying corn to supply armies or markets. Thus, (6)the modest productivity of Maya agriculture, and their lack of work animals, severely limited the duration and distance possible for their military campaigns*.

(7) 私たちは軍事的な成功は食糧供給よりもむしろ武器類の品質によって決定されるという考え方に慣れている。けれども、食糧供給の改善が軍事的成功を決定的に高めるという明白な事例がニュージーランドのマオリ族の歴史から得られる。 The Maori are the Polynesian people who were the first to settle New Zealand. Traditionally, they fought frequent fierce wars against each other, but only against closely neighboring tribes. Those wars were limited by the modest productivity of their agriculture, whose staple crop was sweet potatoes. It was not possible to grow enough sweet potatoes to feed an army in the field for a long time or on distant trips. When Europeans arrived in New Zealand, they brought potatoes, which beginning around 1815 considerably increased Maori crop food production. Maori could now grow enough food to supply armies in the field for many weeks. The result was a 15-year period in Maori history, from 1818 until 1833, when (8)Maori tribes that had acquired potatoes and guns from the English sent armies out to attack tribes hundreds of miles away that had not yet acquired potatoes and guns. Thus, the potato's productivity

relieved previous limitations on Maori warfare, similar to the limitations that low-productivity corn agriculture imposed on Maya warfare.

注

bureaucrats* 官僚, 役人

Old World* (南北アメリカなどの「新世界」に対して) ヨーロッパなどの「旧世界」

staples* 主食

edible* 食用に適した

Andean* アンデスに住む

quinoa* キノア (アンデス産の食用植物)

llamas* ラマ, リヤマ (ラクダ科の動物)

chinampas* チナンパ (中南米において, 湖や沼地を杭で囲い水草などを積み重ねた上に底の土壌を積み上げる浮き島;ここに穀類・野菜などを栽培する)

irrigation* 灌漑

porters* 運搬人

military campaigns* 軍事行動, 従軍

設問

1. 下線部 (1) の「階層化社会」の指す内容を日本語で簡潔に記せ。
2. 下線部 (2) の 'it' が指すものを英語で記せ。
3. 下線部 (3) の指す内容を日本語で具体的に記せ。
4. 下線部 (4) は具体的にどのようなことを指すのか, 日本語で記せ。
5. 下線部 (5) を和訳せよ。
6. 下線部 (6) の指す内容を日本語で記せ。
7. 下線部 (7) を英訳せよ。
8. 下線部 (8) を和訳せよ。

[下書き用紙]