

平成 19 年度 理学系研究科博士前期課程 入学試験問題

(分子科学専攻・秋募集)

英語

試験時間 : 10:30~12:00

配点 : 150 点

【注意】

- (1) 問題冊子 (1部)、問題 1, 2, 3 の解答用紙 (3枚) を配布する。
手元に上記 4 種類が所定の枚数配布されていることを確認すること。
過不足がある場合には速やかに申し出ること。
- (2) 3枚の解答用紙の各々に受験番号と氏名とを必ず記入すること。
- (3) 問題 1, 2, 3 の解答をそれぞれ指定された解答用紙に記入すること。

1. 次の英文を読んで、下記の設問に答えよ。

Aging is a result of the gradual failure of the body's cells and organs to replace or repair themselves. This is because there is a limit to the number of times that each cell can divide.^(a) As the body's cells begin to near this limit, the rate at which they divide slows down. Sometimes the new cells that are produced have defects or do not carry out their usual task effectively. Organs can then begin to fail, tissues change in structure, and the chemical reactions that power the body become less efficient.

The spine becomes shorter in older people because the pad of cartilage between the bony vertebrae grows thinner. Elderly people often lose bone in a condition called osteoporosis. This usually affects elderly women, although it can also appear in men. The bone becomes spongy, and when it affects the vertebrae in the spine, they may collapse. This causes pain, and also makes the person's spine shorter and curved. Osteoporosis can be treated with drugs, and a diet containing the mineral calcium can also help. Calcium is plentiful in milk and cheese.^(b)

It is very common for older people to become forgetful, although many retain perfect memories from long ago. Many things can cause forgetfulness. Sometimes the blood supply to the brain is not effective. The brain cells become starved of oxygen and nutrients, leading to dizzy spells and forgetfulness. Dementia is a condition where forgetfulness becomes a serious problem, and the person may not be able to look after himself or herself. Alzheimer's disease is the most serious form of dementia. For most older people, memories bring great pleasure. Strangely, even though recent events may be forgotten, people often clearly remember events that took place in their childhood.^(c)

People are living longer and longer, and most of us can expect to live to the age of 75 years or more. We can also expect to be reasonably healthy for almost all of this time. Because so many of the diseases that caused people to die young are now being controlled, and people have a far better standard of living, most of us are living much longer than our ancestors.^(d)

(spine: 脊柱, pad: 詰め物, cartilage: 軟骨, vertebra: 脊椎骨, dizzy: めまいの, spell: 発作, dementia: 痴呆)

問 1 4つの段落のそれぞれの要旨を20字以内で書け。

問 2 下線部(a)を日本語に訳せ。

問 3 下線部(b)を日本語に訳せ。

問 4 下線部(c)を日本語に訳せ。

問 5 下線部(d)を日本語に訳せ。

2. 次の各英文を日本語に訳せ。

(1) There are no secrets to success. It is the result of preparation, hard work, and learning from failure.

(2) People rarely succeed unless they have fun in what they are doing.

(3) It's easy to decide what you are going to do. The hard thing is figuring out what you are not going to do.

(4) Make yourself necessary to somebody.

(5) We must change to remain the same.

3. 次の設問に答えよ。

問1 「とける」という日本語の動詞に対応する英単語を3つ挙げ、それぞれの意味を英語で書け。

問2 以下の和文を英訳せよ。

人型ロボット“ASIMO”の動きがさらに人間に近づいた。走行速度は従来の2倍の時速6 kmになり、やや複雑な動きもできるようになった。