滋賀医科大学

平成25年度
医学科(前期日程)入学試験問題

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8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。

出典情報ＵＲＬの訂正

英語　２ページ

下から７行目の最初の単語

（誤）ｆｒｕｉｓ

（正）ｆｒｕｉｔｓ

英　　語（3問題）

Ⅰ．次の文章は，太古の植物の再生について書かれたものである。本文の内容に沿って，以下の設問に答えよ。設問1以外は日本語で解答せよ。右肩に＊印のある語(句)には注がある。(配点　70)

〔1〕 Fruits in a fruit bowl tend to rot after a couple of weeks. Fruits that are chilled in permanent Siberian ice keep rather better. After more than 30, 000 years, and with some care from Russian scientists, some ancient fruits of *Silene stenophylla** have produced a delicate white flower. These regenerated* plants are still viable*. They produce their own seeds and, after a 30, 000-year break, can continue their family line.

〔2〕 The plant owes its miraculous revival to a team of scientists led by David Gilichinsky, and an enterprising ground squirrel. Long ago, the squirrel buried the plant's fruit in the banks of the Kolyma River. The banks froze. Over thousands of years, the squirrel's burrow* fossilized and was buried under increasing layers of ice. The plants within were kept at −7 ℃, surrounded by permanently frozen soil, neither thawing nor suffering disturbance(1). By the time they were found, they had been buried to a depth of 38 meters, and frozen for around 31, 800 years.

〔3〕 Svetlana Yashina from the Russian Academy of Sciences grew the plants from immature fruits recovered from the burrow. She extracted their placentas — the structure that the seeds attach to — and bathed them in a mixture of sugars, vitamins and growth factors. From these tissues, roots and shoots emerged. Yashina grew the plants in pots, and two years later, they developed flowers. She crossed the ancient flowers with each other, and in a few months, they produced their own seeds and fruits, all viable. The frozen plants, blooming again after so many years frozen, seeded a new generation. *Silene stenophylla* is still around, but Yashina found that the ancient plants are a little different from their modern-day counterparts, even those taken from the same region. They are slower to grow roots, they produce more buds, and their flower petals are wider.

〔4〕 This is the first time that anyone has grown plants from tissue deeply buried within permanently frozen burrows, but it is not the first time that someone has tried. In 1967, Canadian scientists claimed that they had regenerated an Arctic plant from 10, 000-year-old seeds that had been similarly buried by animals. However, in 2009, another team dated those same seeds and found that they were actually modern ones, which had gotten into the ancient sample.

〔5〕 With this mistake (2) in mind, Yashina carefully checked that her plants were indeed ancient ones. She dated the seeds directly, and her results matched age estimates from other samples from the same burrow. The burrows had been buried well below the level that animals dig into, and the structure of the surrounding ice suggests that they had never thawed. The layers of soil had been firmly compacted and totally filled with ice. No water got into these chambers, much less plant roots or modern animals.

〔6〕 This closed world provided shelter, a cold and effectively dry environment that allowed the fruits to stay alive. At temperatures below freezing, their chemical reactions slowed down. Extreme age was no longer a problem. A fruit's placenta is also chemically active, and is loaded with several chemicals that might have protected these specific tissues against the cold.

〔7〕 However, the burrows were not completely safe environments. The underground rocks contain naturally radioactive elements, which would have hit the seeds with low but accumulating doses of radiation. The ones that Yashina regenerated would have been exposed to more radiation than any other (3) plant has been known to absorb while still producing viable seeds.

〔8〕 *Silene stenophylla*'s resurrection* shows how many treasures lie buried within the world's permafrost*. This soil, defined as that which stays below freezing for two years or more, covers a fifth of the planet's land. It is home to bacteria, plants and more. In the fossil burrows that Yashina has studied, scientists have found up to 600,000 to 800,000 seeds in individual chambers.

〔9〕 In Norway, scientists have frozen thousands of seeds in an underground cave, as a back-up in case of agricultural crises. However, nature has already produced similar frozen seed banks. Cold places such as Siberia and Alaska could act as one massive freezer, where ancient life has been stored, waiting to greet the world again.

(http://blogs.discovermagazine.com/notrocketscience/2012/02/20/flowers-regenerated-from-30000-year-old-frozen-fruis-buried-by-ancient-squirrels/より改変引用。)

注 *Silene stenophylla* = スガワラビランジ(なでしこ科の植物名)
to regenerate = を蘇らせる
viable = 生長[発芽]可能な
burrow = (小動物の隠れ住む地中の)穴, 巣
resurrection = 再生
permafrost = (北極地方に見られる)永久凍土層

設問 1　List 7 specific parts of a plant as mentioned in the text. Answer in English.

設問 2　Give 4 factors mentioned in the text that assured Yashina that her specimens were carefully tested, and indeed 30, 000 years old.

設問 3　Explain what the underlined word (1) "disturbance" in the second paragraph refers to.

設問 4　Explain what the underlined part (2) "this mistake" in the fifth paragraph refers to.

設問 5　Describe the one force that might have damaged even the best preserved of the 30, 000-year-old specimens.

設問 6　Describe the differences between modern *Silene stenophylla* and their 30, 000-year-old ancestors.

設問 7　Explain for what purposes the scientists in Norway have been storing seeds and why it is done in an underground cave.

設問 8　Translate the underlined part (3) in the seventh paragraph into Japanese.

次のページにも英語の問題があります。

Ⅱ. 次の文章は，映画の誕生について書かれたものである。本文の内容に沿って，以下の設問に日本語で答えよ。右肩に＊印のある語には注がある。(配点 80)

〔1〕 For the first half of the twentieth century — from 1896 to 1946, to be exact — movies were the most popular and influential medium of culture in the United States. They were the first of the modern mass media, receiving their principal support from (1)the poorer and less visible layer in American society.

〔2〕 They were not predetermined to flourish in this way. (2)Under slightly different circumstances the motion-picture camera and projector might as easily have become primarily instruments of science, like the microscope, or of education and family entertainment, like the lantern slide, or of amateur photography. In 1890, before his laboratory had perfected any motion-picture equipment, Thomas A. Edison predicted that moving pictures and his record player would provide home entertainment for rich families. (3)It turned out differently for one fundamental reason: movies developed during critical years of change in the social structure of American life when (4)a new social order was emerging in the modern industrial city.

〔3〕 The two decades from 1890 to 1910 span the gap from the beginning of motion pictures to their firm establishment as mass entertainment; they are also the years when the United States transformed itself into a predominantly urban industrial society. Many American cities doubled their populations; millions of South and East European immigrants brought their unfamiliar languages, religious institutions and cultural customs to create diversity such as the nation had never before seen; residential suburbs began to grow. (5)Industry moved in downtown, and better-off families moved out, leaving their old houses or properties to be occupied by immigrants and people moving in from the countryside in search of jobs.

〔4〕 The change was not simply a matter of growth. There were basic changes in the character of cities. The older American city, for all its variety of cultural and economic differences, had been a place where people of all income levels and occupations lived close together and mixed with each other. The emerging social structure of twentieth-century cities did away with (6)such physical nearness and encounter. Increasingly, areas of cities were divided by social class; how much money you made, the kind of job you did, the country of your origin, set the boundaries of where you lived. The old American city, which had been a single community, became the new American city of many communities, separated from each other by social barriers.

〔5〕 We have abundant information on the amusements and pastimes of the more well-to-do and more cultured people (7) in the new social order that they have left us in books and magazines reports and comments on various aspects of their lives. Of the life of low-income people we know much less. At that time, those living outside the poorer neighborhoods tended to avoid entering those districts, and sometimes — as in the case with the nickelodeon* movie theaters — several years went by before the general public acquired knowledge of new social or cultural phenomena among this poorer economic class.

〔6〕 Obviously the overwhelming fact of life for these men and women was work itself — half of every twenty-four hours was spent on the job, eleven hours in the best of circumstances, punching in at six or sometimes seven, checking out again at six, in winter never seeing sunlight off the job — and all this for low pay. Few of them had the energy or time to organize recreational activities; they preferred ready-made, prepackaged recreation that provided instant satisfaction at a cheap cost. Of course, such recreation had to be available in their neighborhoods. Neighborhood saloons, dance halls and roller-skating rinks — these mostly exhausted the neighborhood's entertainments.

〔7〕 Then, in 1893, came Edison's kinetoscope* peep show, displayed as a technological novelty — *moving* pictures. For a penny* one could view a film lasting about a minute. Nickelodeons became the next dominant exhibition form around the turn of the century. A study of a steel-mill* town in Pennsylvania, home of many Hungarian and Polish immigrants, describes their situation: "... five cents for a show consisting of songs, moving pictures, etc., which lasts fifteen minutes or so.... Men on their way home from work stop for a few minutes to see something of life beyond (8) mill and home; the shopper rests while she enjoys the music, and the children are always begging for five cents to go to the nickelodeon."

〔8〕 The urban workers, the immigrants and the poor had discovered a new medium of entertainment without the aid, and indeed beneath the notice, of the other sections of society. The struggle for control of the movies was to begin soon thereafter, and it continues to the present day. However, movies have never lost their original character as a medium of mass popular culture.

(Robert Sklar, *Movie-Made America: A Cultural History of American Movies.* Rev. and updated; New York: Vintage Books, 1994. 3-5 and *Movies and American Society.* Ed. Steven J. Ross. Malden, MA: Blackwell Publishing Ltd, 2002. から改変引用。)

注 nickelodeon(s) = (20 世紀初頭の) 5 セント映画
kinetoscope = 初期活動写真映写機
penny = 1 セント
steel-mill = 製鋼工場

設問 1　第一段落の下線部 (1) “the poorer and less visible layer in American society” において “less visible” の意味を説明せよ。

設問 2　第二段落 (2) の下線部を和訳せよ。

設問 3　エジソンが moving pictures を発明した前後に，アメリカ社会で起こった構造変化とは何か？

設問 4　第二段落の下線部 (3) “It turned out differently....” とあるが，エジソンの予言と実際は異なる。何が何に対してどう異なる結果となったのか，説明せよ。

設問 5　第二段落の下線部 (4) “a new social order” を説明せよ。

設問 6　第三段落の下線部 (5) を和訳せよ。

設問 7　第四段落の下線部 (6) “such physical nearness and encounter” の指す内容を説明せよ。

設問 8　The older American city と the new American city の違いと，その違いがどのようにして形成されたのかを説明しなさい。

設問 9　第五段落の下線部 (7) “the more well-to-do and more cultured people” の意味を説明せよ。

設問10　The “new American city” の低所得者層の労働環境はどのようなものであったか述べよ。

設問11　第七段落の下線部 (8) を和訳せよ。

Ⅲ. Read the following Japanese passage on laughter carefully, and, with this in mind, write an English essay of about 150 words, where you analyze the possible causes or circumstances that might produce laughter and the nature of that laughter, illustrating with your own experiences and thoughts about it in detail. (配点 50)

笑いにはいろいろある。大笑い，微笑，苦笑，嘲笑，冷笑，ケケケ，クックック，ははは，ひひひ，ふふふ，へへへ，ニヤニヤ，ニタニタ，ニンマリ笑い。笑いには説明がつかない深さ，複雑さ，多様性がある。笑いの要因は千差万別だ。笑う人の心理的生理的状態や考え方感じ方，笑われる対象の特徴，笑う人と対象との関係，その場の状況，その状況を囲む社会や文化など。これらが様々な組み合わせでいろいろな笑いを生じさす。笑いは面白かったりおかしかったりするときに限られていないようである。