平成26年度　入学試験問題

医学部（Ⅰ期）

英語・数学

注意事項

1. 試験時間　平成26年1月31日，午前9時30分から11時50分まで
2. 配付した試験問題(冊子)，解答用紙の種類はつぎのとおりです。

(1) 試験問題(冊子，左折り)(表紙・下書き用紙付)

英　語

数　学(その1，その2)

(2) 解答用紙

英　語　　1枚(上端黄色)(右肩落し)

数　学(その1)　1枚(上端茶色)(右肩落し)

〃　(その2)　1枚(上端茶色)(左肩落し)

3. 下書きが下書き用紙で足りなかったときは，試験問題(冊子)の余白を使用して下さい。
4. 試験開始2時間以降は退場を許可します。但し，試験終了10分前からの退場は許可しません。
5. 受験中にやむなく途中退室(手洗い等)を望むものは挙手し，監督者の指示に従って下さい。
6. 休憩のための途中退室は認めません。
7. 退場の際は，この試験問題(冊子)を一番上にのせ，挙手し監督者の許可を得てから，試験問題(冊子)，受験票，下書き用紙および所持品を携行の上退場して下さい。
8. 試験終了のチャイムが鳴ったら，直ちに筆記をやめ，おもてのまま上から解答用紙〔英語，数学(その1)，数学(その2)〕，試験問題(冊子)の順にそろえて確認して下さい。確認が終っても，指示があるまでは席を立たないで下さい。
9. 試験問題(冊子)はお持ち帰り下さい。
10. 監督者退場後，試験場で昼食をとることは差支えありません。ゴミ入れは場外に設置してあります。
11. 午後の集合は1時です。

英語　訂正

問題冊子　2ページ

問題 2 (6) の選択肢

誤：D. I'd prefer you did it now

↓

正：D. I'd prefer did it now

英　語

1 次の各組の単語について，(1)~(3)は第1アクセントの位置が他と異なるものを，(4)~(5)は下線部の発音が他と異なるものを1つずつ選び，記号で答えなさい。

(1) A. con-tra-ry　B. tu-i-tion　C. im-i-tate　D. reg-is-ter　E. sta-di-um

(2) A. es-ca-la-tor　B. en-gi-neer-ing　C. Eu-ro-pe-an
D. in-de-pend-ent　E. sit-u-a-tion

(3) A. ag-ri-cul-ture　B. cer-e-mo-ny　C. ap-pre-ci-ate
D. com-fort-a-bly　E. lit-er-a-ture

(4) A. convenience　B. meter　C. recent
D. species　E. serious

(5) A. arise　B. compromise　C. enterprise
D. precise　E. otherwise

2 各文の(　　)の中に入れるのに最も適切な表現を1つずつ選び，記号で答えなさい。

(1) I was (　1　) a stranger in front of the library.
A. spoken to　B. spoken of　C. spoken to by
D. spoken of by　E. spoken

(2) We usually let the children (　2　) on Saturdays.
A. to stay up late　B. staying up late　C. stayed up late
D. have stayed up late　E. stay up late

(3) Which days per week are you (　3　) for volunteer work?
A. available　B. convenient　C. favorable
D. timely　E. suitable

(4) Jane (4).

A. is married with three children
B. will marry to him next year
C. is married with an American
D. marry her daughter to a doctor
E. has been married him for 10 years

(5) We hear so much about teamwork, but what (5) teams work?

A. is B. makes C. are D. is it about E. do

(6) "I'll repair your car tomorrow, OK?" "(6)."

A. I'd rather you did it today
B. I'd prefer doing it now
C. I'd rather did it today
D. I'd prefer you did it now
E. I'd rather doing it today

(7) Dave lost his job and was short of money, so (7).

A. it was to sell his flat that he did
B. it was to sell his flat what he did
C. that he did it was to sell his flat
D. it was that he did to sell his flat
E. what he did was sell his flat

(8) It's so difficult getting to the bottom of the ocean that for the most part we have to resort to (8) unmanned vehicles as scouts.

A. send B. sending C. be sent D. sending to E. be sent to

(9) About 5.8 million Americans have heart failure, (9) the heart can no longer pump enough blood to meet the body's needs.

A. the fitness which arises after
B. the fact according to which
C. a condition that occurs when
D. the case following that
E. an appearance which expresses

(10) Tamu Massif, first thought to be perhaps dozens of individual volcanoes, turns out to be just (10) — but it's really big. It's about the size of New Mexico.

A. any B. about C. it D. only E. one

(11) Christmas is exploited by capitalism. (11), it is still a religious festival.

A. Although
B. That is
C. Simply put
D. Again
E. That said

(12) Four billion years ago, something started stirring in the primordial soup. A few simple chemicals got together and made biology — the first molecules capable of (12) appeared.

A. reproducing them
B. copying each other
C. duplicating itself
D. making a copy of the others
E. replicating themselves

(13) The fact you can shop safely on the Internet is thanks to prime numbers — those digits that can only (13).

A. be divided by themselves and one
B. divide themselves and one
C. divide them and one
D. divide by themselves and one
E. be divided by them and one

(14)－(15) William Ockham was a Franciscan friar and English logician, most famous for the maxim Occam's Razor (Principle of Parsimony). It is stated in many different forms, but most often with the phrase 'Of two equivalent theories or explanations, all other things (14), the simpler one is to be preferred'. Another way of (15) this, as doctors are fond of saying, is 'If you hear the sound of hoofbeats, think of horses not zebras'.

(14) A. equals　B. equaled to　C. to equal
D. being equal　E. equal to

(15) A. running　B. putting　C. working
D. having　E. moving

3 以下の文章を読み，後の問いに答えなさい。

[1] Truth-telling can be very challenging in clinical practice, especially when it relates to adverse outcomes.

[2] In the past, when paternalism characterised the doctor-patient relationship, 【あ】 *discretion might benefit a patient. With increased patient autonomy and *empowerment, as well as developments in treatment, there have been substantial changes in truth-telling attitudes, practices, and policies worldwide. Legal and professional codes have evolved to include requirements for disclosure and informed consent in many countries. Furthermore, patients are increasingly involved in the decision-making processes of diagnosis and treatment.

[3] Attitudes to truthfulness can vary between cultures and individuals. Withholding the truth wholly or partly is not uncommon in some countries, such as China and Japan, because of the fear【い】might lead to isolation, depression, or even suicide. In these settings, which have a strong paternalistic and family-centred tradition, physicians may disclose a patient's terminal diagnosis to family members first, and ask families whether or not they should break the news to the patient.

[4] The manner in which bad news is broken【う】patients and their relatives, but also on health professionals themselves. Because of inadequate training, many doctors find the process stressful and they have difficulty handling their own emotions of sorrow, guilt, identification, and frustration when giving such news. The patients' perceptions of the communication will enormously affect their attitudes towards physicians.

[5] Knowing whether, when,【え】for health professionals. There are several guidelines and recommendations to help in this task. For instance, for the US *oncologist, the complex process is outlined by the acronym SPIKES: Setting up interview, assessing patient's Perception, obtaining patient's Invitation, giving Knowledge and information, addressing the patient's Emotions, strategy and Summary. Additionally, truth telling is no longer a one-way act of doctors providing information. Patients need to be allowed to express feelings and ask questions in a private setting. Patients' autonomy, psychological well being, cultural background, religious beliefs, and social support should all be taken into consideration. Truth-telling also【お】as well as the inherent uncertainty that *pervades all medicine. Telling the truth goes beyond delivering biomedical facts. It also entails humanity.

(adapted from *The Lancet*, October 1, 2011)

< Notes >

discretion : the ability and right to decide exactly what should be done in a particular situation　　**empowerment** < empower : to give someone more control over their own life or situation　　**oncologist** < oncology : the part of medical science that deals with cancer and tumors　　**pervade** : to be present throughout; to spread through

(1) 【あ】～【お】について，それぞれに与えられた{　　}の中の語(句)を文脈に合うよう並べ替えたとき，(　1　)～(　10　)に入るものを記号で答えなさい。

【あ】 (　　)(　　)(　1　)(　　)(　　)(　2　)(　　)

{A. that / B. the truth / C. perceived / D. doctors / E. when they / F. withheld / G. some}

【い】 (　　)(　3　)(　　)(　　)(　4　)(　　)(　　)

{A. unwanted emotional distress / B. of / C. hope / D. causing / E. extinguishing / F. and / G. that}

【う】 (　　)(　　)(　5　)(　　)(　　)(　　)(　6　)

{A. a / B. have / C. only on / D. can / E. effect / F. not / G. profound}

【え】 (　　)(　7　)(　　)(　　)(　　)(　　)(　　)(　8　)

{A. to patients / B. how / C. is / D. skill / E. to break / F. and / G. an essential / H. bad news}

【お】 (　　)(　9　)(　　)(　　)(　10　)(　　)(　　)(　　)

{A. what / B. physicians / C. honest / D. being / E. know / F. includes / G. about / H. do not}

(2) 第5段落の下線部と対立する概念を表す語(句)を本文の中に探し，解答用紙に記入しなさい。

4 以下の文章を読み，後の問いに答えなさい。

[1] Paying for performance has strong intuitive appeal. Common sense and rigorous studies tell us that paying more for, say, *angioplasties or *immunizations yields more of them. So paying doctors for better care — not just more of it — seems like a *no-brainer.(あ) Yet rigorous studies of pay for performance bonuses have found no health benefits and some unintended harms. An exhaustive analysis of pay for performance research by the Cochrane Collaborative, an international group that reviews medical evidence, unearthed "no evidence that financial incentives can improve patient outcomes."

[2] Consider these cases. In Britain's massive pay for performance program, family doctors earned almost perfect scores (and big bonuses) for hypertension treatment, but population surveys found no decrease in blood pressure or its main complication(ウ), strokes. Meanwhile, aspects of quality that didn't bring bonuses deteriorated. The largest U.S. pay for performance experiment — Medicare's Premier Demonstration — also *flopped. The 200 hospitals that offered bonuses scored slightly worse on patient death rates than other hospitals.

[3] Proponents argue that programs like these were flawed in one way or another, and that the next trial — or the one after — will certainly do better. They also claim successes with other programs. But none of these claims rest on rigorous science, and all those that have subsequently been subjected to rigorous tests have failed.

[4] Why do these programs consistently fall short? Measurement is distorted once you pay doctors based on the data they themselves create. High scores may reflect real excellence, but can just as easily reflect cherry-picking or *gaming the measurement system. One Boston-area hospital we observed improved its quality score 40% just by getting doctors to change the words they wrote in patients' charts. Medicare gives hospitals more credit for saving patients with "acute *respiratory decompensation" than those with "*COPD *exacerbations," although these terms are synonyms. That kind of practice is neither illegal nor unusual.

[5] Beyond that, it's *devilishly difficult to quantify doctors' performance in the first place. Hospital death rates seem, at first glance, an ideal measure of medical quality. Yet, four widely used algorithms yield completely different mortality rankings; a hospital rated outstanding in one often looks *downright dangerous in another. Even if — as some proponents argue — we find performance measures that work for one group of doctors, it's unlikely that they'll work for all providers in all patient populations. Moreover, many providers interact in providing care, and influence each other and patients' outcomes in complex ways. It's hard to imagine that incentives could optimize this as a system.

[6] There's also psychology at work. Rewarding performance ignores the complexity of human drive, particularly the role of intrinsic motivation — the desire to perform an activity for its own inherent rewards. Offering your dinner-party host a $10 reward for cooking a wonderful meal isn't likely to motivate future invitations. Studies have found that financial incentives often crowd out intrinsic motivation. For instance, college students will spontaneously play with interesting puzzles, but once they're paid to solve them, they lose interest in playing for nothing. When day-care centers in Israel imposed fines on parents for picking up children late, *tardiness increased. Promptness

transformed from a moral duty to a market transaction. Pay for performance undermines the *mindset required for good doctoring — the drive to do good work even when no one is looking. Moreover, it forces doctors to shift their attention from patients to computer screens — documenting trivial details useless for patient care but essential for compliance.

[7] None can doubt medicine's grave quality problems. As a remedy, pay for performance suggests manipulating greed. This can certainly change medicine, but not necessarily in the ways that we would plan, (う)much less hope for.

(adapted from *The Wall Street Journal*, June 16, 2013)

<Notes>

angioplasty：血管形成術　**immunization**：免疫化，予防接種　**no-brainer**：an easy or obvious conclusion, decision, solution, task, etc.; something requiring little or no thought　**flop**：fail　**game**：manipulate something, typically in a way that is unfair　**respiratory decompensation**：呼吸不全　**COPD**：慢性閉塞性肺疾患　**exacerbation**<exacerbate：increase the severity, bitterness, or violence of disease, ill feeling, etc.　**devilishly**：extremely　**downright**：completely　**tardiness**：lateness　**mindset**：the established set of attitudes held by someone

(1) Which of the following is the most appropriate title for this passage?

A. Improvements in performance require teamwork

B. The first challenge in creating a performance measurement

C. What is pay for performance?

D. Financial incentives can improve patient outcomes

E. Should physician pay be tied to performance?

(2) The word *unearthed* in paragraph 1 is closest in meaning to (　　).

A. elaborated　　B. augmented　　C. uncovered

D. abbreviated　　E. overlooked

(3) Why does the author mention the pay for performance trials in the UK and the U.S.?

A. To show the shift from fee-for-service practice to new methods of payment.

B. To demonstrate that financial reward systems do not work in healthcare settings.

C. To point out that the trials have easily correctable design flaws.

D. To note the lack of well-accepted metrics for an assessment of the efficiency of healthcare.

E. To reveal that pay for performance creates the incentive to provide unnecessary care services.

(4) According to the author, pay for performance programs are not successful because ( ).

A. there is great concern among physicians that the focus on efficiency will be, in fact, the only focus

B. doctors are graded on how well they comply with procedures for patient care

C. there could be unintended consequences related to patient health and physician satisfaction

D. it is difficult to come up with adequate measures to judge physician performance

E. health outcomes such as death are the most easily measured indicators of overall performance

(5) By stating "there is also psychology at work" in paragraph 6, the author argues that ( ).

A. monetary rewards can undermine motivation in medical care

B. paying for performance removes the motivation to do unnecessary tests and hospitalize people who don't need it

C. poor performance is the result of financial distress

D. doctors should be paid for every service they perform

E. the idea of paying for performance cannot prove itself to be more effective

(6) The phrase *manipulating greed* in paragraph 7 specifically refers to ( ).

A. removing incentives for doctors to game the system

B. inducing better performance by higher salaries

C. developing a rigorous measure to assess doctors' performance

D. strengthening the intrinsic rewards of doing a good job for its own sake

E. working together to improve health

(7) 下線部(あ)を日本語に直しなさい。

(8) 下線部(い)を別の表現で置き換えるとき，最も適切なものを１つ選び，記号で答えなさい。

A. the main complication of Britain's massive pay for performance program

B. the main complication of hypertension

C. the main complication of hypertension treatment

D. the main complication of decrease in blood pressure

E. the main complication of blood pressure

(9) 下線部(う)の内容として最も適切なものを１つ選び，記号で答えなさい。

A. むしろこれまでよりずっと少ない報酬で医療を変えていくことが望まれること

B. 今後の医療改善に期待する人々の数がますます少なくなること

C. そのプログラムに期待できることは我々が考えているよりもずっと少ないこと

D. 真に患者のためとなる医療を実現しようとする医師たちのモチベーションがさらに低下してしまうこと

E. 医療が我々の期待通りに変わっていくことなどもっとありそうもないこと