平成23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23年1月28日，**午前9時30分から12時まで**
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(その1，その2)

数　学(その1，その2)

(2) **解答用紙**

英　語(その1)　1枚(上端黄色)(右肩落し)

〃　(その2)　1枚(上端黄色)(左肩落し)

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時間以後からは退場を許可します。但し，試験終了10分前以降の退場は許可しません。
5. 受験中にやむなく外出(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. 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)，受験票および所持品携行の上退場して下さい。
7. 休憩のための退場は認めません。
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(その1)，英語(その2)，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15分です。

英　語（その１）

1　第１アクセントの位置が他と異なるものを１つ選び，記号で答えなさい。

1. A. pat-tern　　B. ci-gar　　C. bal-ance
   D. tal-ent　　E. em-pire
2. A. al-ler-gic　　B. in-dus-try　　C. at-mos-phere
   D. cat-a-logue　　E. ob-vi-ous
3. A. ob-sta-cle　　B. en-ter-prise　　C. in-flu-ence
   D. in-ter-fere　　E. pas-sen-ger
4. A. sub-se-quent　　B. rid-i-cule　　C. per-cent-age
   D. ham-burg-er　　E. bar-be-cue
5. A. prop-a-gan-da　　B. Eu-ro-pe-an　　C. com-pe-ti-tion
   D. au-to-mat-ic　　E. nev-er-the-less

2　（　　）の中に入る最も適切な語(句)を１つ選び，記号で答えなさい。

1. I have (　　) money with me today.
   A. many　　B. much　　C. a lot of　　D. not　　E. a number of
2. I wasn't expecting to have a good time at the party, but (　　).
   A. it was　　B. I did　　C. it had　　D. I was　　E. it did
3. (　　) he's awake is not certain.
   A. Because　　B. As if　　C. Although　　D. If　　E. Whether
4. The committee (　　) two academic staff and three students.
   A. consists of　　B. were comprised of　　C. compose
   D. made up of　　E. constitutes
5. *John*：What fruit do you like ?
   Mary：I like (　　) best.
   A. an apple　　B. orange　　C. the banana
   D. one peach　　E. strawberries
6. Cabinet members are directly responsible (　　) the President.
   A. at　　B. of　　C. with　　D. for　　E. to
7. Your application may be treated as complete as soon as the minimum number of required documents is (　　).
   A. arrived　　B. belonged　　C. practiced　　D. received　　E. approached
8. Researchers in Spain have found the fossiled thigh bone of a dinosaur that is almost two metres in length, the longest such femur (　　) discovered in Europe.
   A. ever　　B. before　　C. quite　　D. at all　　E. well

9. Genetically (　　) salmon could be coming soon to a supermarket near you.

A. produced　B. created　C. uncovered　D. engineered　E. invoked

10. A television crew filmed a "lost" population of tigers living at a higher altitude than any others (　　), raising hopes of linking isolated groups of the big cats across Asia.

A. know　B. knows　C. knew　D. known　E. to know

3 以下の文を読み，後の問に答えなさい。

〔1〕 The recent unveiling of a new UK policy for prosecutors dealing with cases of assisted suicide has put the question of a right to choose when to die back in the headlines. Debates around euthanasia (in which one party takes action to end the life of a second party, at the request of the second party) and assisted suicide (where physicians, or others, provide the means for patients to end their own lives) often overlap with those about palliative care. However, hospice and palliative care professionals see what they do as quite distinct from assisted suicide or euthanasia.

〔2〕 Euthanasia is now possible in three European countries. In 2002, the Netherlands passed a law allowing patients suffering unbearably to request euthanasia and protecting the doctors carrying out those requests from prosecution, as long as they follow a set of strict guidelines. Belgium followed suit the same year and Luxembourg did so in 2009.

〔3〕 In Switzerland assisted suicide — but not euthanasia — has been legal since 1941, provided assistance is given for altruistic motives. Stricter legislation is currently under discussion. (The Netherlands and Luxembourg also permit assisted suicide, although Belgium does not.) Meanwhile, in the US state of Oregon, the Death With Dignity Act, passed in 1997, allows terminally ill, adult residents of the state to take self-administered lethal medications prescribed by a doctor. Take up of the option is relatively limited, with the 60 people that died under the terms of the law in 2008 corresponding to fewer than 20 per 10, 000 deaths. About 400 people have died this way since the law was passed. A similar law was passed in the state of Washington in 2008.

〔4〕 Most recently attention has focused on the UK, where prominent campaigners such as author Sir Terry Pratchett, who has Alzheimer's disease, and Debbie Purdy, a *multiple sclerosis sufferer, are pushing legalisation of assisted suicide. Sir Terry has called for tribunals to review cases of individuals wanting to end their lives. However, such demands are coming largely from the public, rather than the palliative and hospice care profession. "If you look at the percentage of palliative care doctors who are opposed to assisted suicide in the UK, it's over 90%," says David Praill of Help the Hospices. "This is a publicly driven debate and definitely not a hospice and palliative care driven one."

〔5〕 In fact, in many places, the medical professionals promoting end-of-life care do not support euthanasia or assisted suicide. In 2003, the Ethics Task Force of the European Association for Palliative Care (EAPC) produced a paper concluding that, among other things, "provision of euthanasia and physician-assisted suicide should not be part of the responsibility of palliative care". It argued that a distinction should be made between terminal or palliative sedation — the purpose of which is to relieve the dying person of intolerable suffering and distress — and the administration of lethal drugs to a patient with the intention of killing them.

〔6〕 "Palliative care is about trust in the relationship between patient and carers and it's not possible to have that kind of relationship when killing the patient is one of the options," says Lukas Radbruch, president of the EAPC. The constitution of the Asia Pacific Hospice Palliative Care Network is also explicit in this regard, stating: "The Association values every moment of life and does not support any action that has the intention of shortening a person's life."

〔7〕 Meanwhile, it was the 1996 enactment of pro-euthanasia legislation in Australia's Northern Territory — legislation subsequently overturned by the federal government — that prompted the creation of a national strategy and the allotment of new funding for end-of-life care. "Clearly the pro-euthanasia lobby was a huge catalyst for government — that was not keen on euthanasia — responding with genuine new money to look at service development," says David Currow of Cancer Australia, a national government agency.

〔8〕 When it comes to living wills and do not *resuscitate (DNR) policies, more than half the countries in *the Index score highly on the question of whether or not DNR policies have a legal status. For some this has been a relatively recent development. In Taiwan, for example, legislation passed in 2000 — the Natural Death Act — allows patients over the age of 20 with terminal diseases (diagnosed by at least two physicians) to express in writing their wish to discontinue medical treatment and does not prosecute doctors who allow such deaths.

〔9〕 In the US, most states recognise living wills, { }. However, whether doctors adhere to them or not is another matter. The difficulty for doctors is whether to meet the wishes of a document that may have been written several years ago when the patient was in a very different mental and physical state.

〔10〕 "It's another complex existential problem," says Diane Meier of the Center to Advance Palliative Care. "Who is the person with *jurisdiction? Is it the cognitively impaired person in front of us right now or is it the cognitively intact person of five years ago? And that's really complicated, particularly if the cognitively impaired person in front of us right now looks very happy and comfortable."

(*The quality of death: Ranking end-of-life care across the world*, Economist Intelligent Unit, 2010.)

(注) multiple sclerosis 多発性硬化(症)　　resuscitate 蘇生させる
the Index = the Quality of Death Index　　jurisdiction 権限

1. 第3段落の下線部を日本語に直しなさい。

2. 第9段落の{　　}について，「しかしながらリヴィング・ウィルに関する規定は州により異なる」という内容となるよう，括弧内の語を並べかえなさい。
{state, regulated, varies, but, are, to, state, they, how, from}

3. 以下のA～Hについて，本文の内容に合致するものを3つ選び記号で答えなさい。
A. In the Netherlands and Luxembourg, euthanasia and assisted suicide are legal.
B. In Switzerland, the request for euthanasia is under consideration.
C. In Oregon and Washington, every dying patient has the option of assisted suicide.
D. Assisted suicide has a legal status in Belgium.
E. The great majority of doctors actually do not support euthanasia, assisted suicide and palliative care.
F. Palliative care denies any action that has the intention of killing the patient.
G. It is not the case that in Taiwan, a 20-year-old person with a terminal disease can express his/her health care wishes to medical providers in a written statement.
H. In the US, a patient's statement about end-of-life care is not valid if the patient is cognitively impaired.

英　語（その２）

4 以下の文を読み，後の問に答えなさい。

〔1〕 Near the end of my surgical training, I spent three months as chief resident of a hospital *trauma team. Two other doctors-in-training and I formed the first-line emergency room response, *resuscitating patients who had been mangled, burned or otherwise injured. It was my first experience as a leader, but each of us was already fairly proficient and we all got along. I was confident that we would work well together.

〔2〕 I was wrong.

〔3〕 During our first week, one of the senior trauma surgeons played a video of one of our resuscitations, and I was reminded not of some slick made-for-television emergency room scene, but of *the Three Stooges. In white coats.

〔4〕 One resident stood at the patient's side, holding a rubber tube in one hand and a *syringe in the other, unsure (　a　) to use first. (　ア　) kept bumping into the nurses as he paced alongside the patient. I watched myself standing at the head of the bed mumbling orders that no one could hear. The patient survived, but his outcome had little to do with our team. Other than the one experienced nurse in the room and the senior surgeon who showed up 10 minutes into the resuscitation, no one seemed to know what to do or how to coordinate his or her action with everyone else's.

〔5〕 Although my team quickly gained the experience that would truly help us save patients, our growing competence came because we were submerging ourselves in trauma resuscitations day after day and night after night. We were learning as generations of doctors before us had — under the supervision of more experienced doctors, through trial and error, and on real patients.

〔6〕 Now it(あ) appears that this old paradigm of sinking or swimming with real patients is beginning to change, thanks to a growing field in medical education.

〔7〕 Medical simulation training, which is similar to (　b　) used in aviation and in the military, uses mannequins, computers, virtual reality or actors posing as patients to teach doctors, nurses and other clinicians. While simulation training has been used in medicine for nearly 40 years, it(い) has until recently been limited primarily to teaching standard techniques like *CPR or *pelvic exams.

〔8〕 But in the last few years, new technology has allowed simulations to recreate entire clinical situations, giving clinicians the opportunity to develop skills (　c　) is often identified as a major cause of errors in health care: poor teamwork and communication.

〔9〕 "Even if we are good (イ), we are not always good at working (ウ)," said Dr. David M. Gaba, an early proponent of simulation and now associate dean for immersive and simulation-based learning at the Stanford School of Medicine. "Simulation can help develop decision-making and teamwork."

〔10〕 *Anesthesia residents at Stanford, for example, must go through an extensive simulated situation (d) the "patient," a specialized mannequin, develops a severe allergic reaction and then dies. During this training, the residents must provide and coordinate medical care with other members of the team and then conduct the difficult conversation with the patient's "wife," a live actor who has been trained to play the role of a shocked and grieving widow.

〔11〕 "One of the beauties of simulation is you can let people practice those skills necessary in real-life medicine," Dr. Gaba said.

〔12〕 Dr. Mark Smith, senior director of simulation and innovation at Banner Health, a nonprofit system that just opened a 55, 000-square-foot, $12 million simulation training center in Arizona, said: "It's not the real thing, and doctors are often hesitant at first. But pretty quickly, doctors realize how nice it(う) is to practice in an environment without consequences."

〔13〕 While research has shown (e) simulation training in specific procedures like placing *catheters into a central vein can decrease errors, it(え) has been difficult to design studies that assess the effects of improved teamwork. Nonetheless, experts believe such training can only help, despite the high costs.

〔14〕 "It's really all about cost savings and patient care," Dr. Smith said. "We take such better care of our patients (f) we've got these skills. It(お)'s no longer acceptable to learn on patients. It's just not right."

〔15〕 Which is true — with an important caveat.

〔16〕 "Simulation allows you to do a lot of things safely but will never completely replace practicing the craft of medicine under more experienced hands," Dr. Gaba said. "People aren't airplanes or machines."

("Practicing on Patients, Real and Otherwise (*adapted*)," by Pauline W. Chen, *The New York Times*, February 2, 2010.)

(注) trauma team 救急患者の診療にあたる，様々な職種の医療従事者から成るまとまり
resuscitate 蘇生させる　　the Three Stooges アメリカのコメディー番組
stooge ぼけ役　　syringe 注射器　　CPR 心肺蘇生法
pelvic exams 内診　　anesthesia 麻酔　　catheter カテーテル

1. (　ア　)に入る最も適切な語(句)を1つ選び，記号で答えなさい。

A. Another resident　　B. Other residents　　C. The other resident

D. The other residents　　E. Others

2. (　イ　)と(　ウ　)に入る語(句)の組み合わせとして最も適切なものを1つ選び，記号で答えなさい。

A. <potentially, externally>　　B. <relatively, absolutely>

C. <initially, in concert>　　D. <technically, independently>

E. <individually, collectively>

3. (　a　)～(　f　)に入る最も適切な語(句)を以下の選択肢から選び，記号で答えなさい。同じ語(句)を何度使用しても構いません。

A. that　　B. in what　　C. when　　D. in which　　E. of which

4. 下線部(あ)～(お)の *it* のうち，他の4つとは用法が異なるものを1つ選び，記号で答えなさい。

A. it(あ)　　B. it(い)　　C. it(う)　　D. it(え)　　E. It(お)

5. 11段落の下線部 *beauties* の意味に最も近い語を1つ選び，記号で答えなさい。

A. advantages　　B. potentialities　　C. qualities

D. elegances　　E. wonders

6. 16段落の下線部 *hands* を文中の他の語で置き換えるとき，最も適切なものを1つ選び記号で答えなさい。

A. skills　　B. teams　　C. doctors　　D. patients　　E. simulations

7. 第6段落の *this old paradigm of sinking or swimming with real patients* とはどういうことか。本文の内容に基づき日本語で説明しなさい。

8. シミュレーション医療教育に関して，本文の内容と合致するものを3つ選び記号で答えなさい。

A．シミュレーション教育が医療の分野に導入されたのは，ほんの数年前のことではない。

B．かつてはマネキンが使われていたが，現在では模擬患者を活用している。

C．臨床技能の習得には効果的だが，意思決定力を養うことはできないと言われている。

D．シミュレーションとはいえ，状況によっては実際の患者に参加してもらうことがある。

E．疑似環境であるがゆえに，医療従事者の中には最初は戸惑う者もいる。

F．チーム医療の改善に役立つことが客観的に分かっている。

G．器材の購入・維持には費用がかかるが，一番の問題はインストラクター不足である。

H．人が人を教える伝統的なやり方に完全に取って代わることはない。