

1 次の英文を読んで、下記の問いに答えよ。

Imagine a future with no sporting events for paralyzed people, a future in which there is no need, as all the would-be competitors have been cured. This scenario, laughable just a few decades ago, is no longer far-fetched, experts say. Bit by bit, important progress is being made in understanding and tackling aspects of paralysis.

Some believe the time is fast approaching when the major (1) problems arising from paralysis — bowel, bladder and sexual dysfunction, breathing complications, declining muscle tone and low bone density — will be treatable, probably through a combination of drugs, cell replacement, physical training and electronic aids. Encouraging signs are also emerging in the quest for the ultimate goal: restoring function to paralyzed limbs.

Paralysis, full or partial, happens when a message from the brain gets lost on its way to the muscles, blocked by illness or damage to the spinal highway.

As recently as 20 years ago, researchers focused not on a cure, but simply on making the person comfortable. “There was a belief that you are born with a certain number of neurons and when they die, they die,” said Mark Bacon, research director at Spinal Research, a U.K. charity. That thinking has been swept away, although the available (2) remain unchanged. The only licensed treatment is physical rehabilitation, which is useful but limited.

In the lab, though, extraordinary experiments are taking place. These include cell replacement and regeneration, spinal scar-tissue removal, electric muscle stimulation and brain-computer connections. Some are in (3) trials — the long process of testing a new drug or medical technique for safety and effectiveness. One promising innovation involves replacing or revitalizing dead or damaged central nervous system cells using stem cells, including cells controversially harvested from *embryos. “We are hopeful of a breakthrough,” said Martin McGlynn, president of StemCells Inc., which implants human neural stem cells directly into the spines of paralyzed trial patients. “This therapy has the potential to provide a long-lasting benefit.”

The last three years have also seen exciting developments in electrical spinal stimulation. This process bypasses attempts to link the brain to muscles, instead using *electrodes to revive the relatively autonomous nerve networks of the lower spine directly. Some experiments have shown paralyzed people stand on their own two feet and regain limited movement, though apparently no feeling. Some individuals regained varying (4) of bladder control and sexual function — a patient population for whom it was always believed that nothing could be done. Among the most thrilling work, though expensive and invasive, is in brain-computer interfaces — using electrodes to read the (5) of the brain to make a movement and relaying that message to muscles to enact it. “The brain-machine interface is a promising field, and we are taking the first, uncertain steps,” said Nathanael Jarrasse, a robot specialist at the French National Centre for Scientific Research.

As many as 500,000 people per year suffer spinal cord injuries — one of the main causes of paralysis, according to the World Health Organization (WHO).

What are the chances of a cure? Experts believe the answer will be a combination of treatments. Doctors would likely administer a “neuroprotectant” drug as soon as possible after injury to reduce the death of precious nerve cells, said Bacon. This could be followed by a drug to encourage the rerouting of broken nerve connections. Next could be cell replacement therapy to reverse whatever damage could not be stopped. “We are at the beginning of the journey in the same way cancer was 20 or 30 years ago, where we have the prospects of treatments that will improve the outcome, and with time we will refine those,” said Bacon.

*embryo 受精卵

*electrode 電極

英 語 (全6の2)

1. 本文の空所(1)~(5)に入れるのに最も適切な語を、下記の(a)~(d)からそれぞれ1つずつ選び、その記号をマークせよ。

- | | | | |
|--------------------|--------------|---------------|--------------|
| (1) (a) elementary | (b) primary | (c) secondary | (d) binary |
| (2) (a) motions | (b) options | (c) potions | (d) notions |
| (3) (a) conical | (b) cervical | (c) critical | (d) clinical |
| (4) (a) digests | (b) digress | (c) degrees | (d) decrees |
| (5) (a) intent | (b) element | (c) implement | (d) filament |

2. 本文の内容と最もよく適合するものを下記の(a)~(g)から3つ選び、その記号をマークせよ。

- (a) Both full and partial paralysis are widely recognized to be main causes of spinal cord injuries.
- (b) Health problems caused by paralysis may become increasingly treatable through medication and physical training.
- (c) Despite the cost, experts are cautiously optimistic about the use of electrodes in treating spinal cord injuries.
- (d) As in the past, experts continue to focus on patient comfort as their primary research objective.
- (e) Varying degrees of paralysis occur when communication between the brain and muscles is insufficient.
- (f) In recent years, electrical stimulation has allowed some patients to recover sensation in their muscles.
- (g) Ultimately, researchers are convinced that death by cancer awaits those with spinal cord injuries.

英 語 (全6の3)

- 2 次の英文が完成した文章になるように、その文意に沿って、(1)～(3)の(a)から(f)をそれぞれ並べ替えよ。そして、1番目、3番目、6番目にくるものを1つずつ選び、その記号をマークせよ。

A new study published in a British medical journal says obesity rates for both adults and children are climbing worldwide, with the greatest gain in weight in developing countries. According to the report, (1) ((a) from 857 million globally in 1980 to (b) last year climbed (c) people carrying (d) extra kilos (e) the number of (f) more than two billion). Researchers report 62 percent of the world's obese individuals live in developing countries. The findings come from an analysis of data gathered from 188 countries published in the British medical journal, *The Lancet*. Investigators (2) ((a) with the biggest increase (b) discovered that (c) obesity (d) climbed 28 percent (e) over the past (f) the rates of) 33 years in children. Forty-seven percent of all youngsters and adolescents worldwide are now considered overweight or obese.

In developed countries, men have higher rates of obesity than women, although there's evidence that the pace of weight gain in the United States and other Western nations has begun to slow over the past eight years. "Nowadays, food is prepared for us. Remember, in the past, it used to take some time to cook a dish," said Ali Mokdad, who teaches health metrics and evaluation at the University of Washington and co-authored the study. "Now a 10-year-old child could pop something in a microwave. It's safe and readily available," he said. The authors found some of the highest rates of obesity in China, India, Russia, Egypt, Pakistan and Indonesia. Places with the highest percentage of overweight people include the island nation of Tonga, where 50 percent of the population has a weight problem, along with Libya, Qatar, Micronesia and Samoa, where more than 50 percent of women carry excess weight.

The health care costs of obesity, particularly to developing countries, are enormous, according to Mokdad. "It has a toll on our disability, our diseases. And no country in the world (3) ((a) to spend (b) on (c) all its money (d) with (e) can afford (f) an aging population) treatment. We should find a balance between treatment and prevention," he said. Without targeted interventions, obesity control programs and the sustained efforts of national governments, experts say it is unlikely countries will meet the United Nations' goal of halting the rise in obesity rates by 2025.

英 語 (全6の4)

3 次の文章の下線部(A)の和訳と下線部(B)の英訳を解答欄に記入せよ。(B)は主語を補うこと。

Europe is a continent of the northern hemisphere consisting of the western part of the landmass of which Asia forms the eastern and greater part, and including Scandinavia and the British Isles. It contains approximately 20 percent of the world's population. The west part of Europe was consolidated within the Roman Empire, but the subsequent eastern ^(A) invasions brought political chaos which was only gradually resolved in the medieval and post-medieval periods, the last modern European nation states emerging in the 19th century. Politically and economically pre-eminent in the 18th and 19th centuries, Europe was overshadowed as a result of the rise of the superpowers in the 20th century, ^(B) しかし、まだはるかに高い生活水準と政治的安定を、後進国よりも維持している。

4 次の英文(1)～(5)の応答として最も適切なものを、それぞれ下記の(a)～(d)の中からそれぞれ1つずつ選び、その記号をマークせよ。

- (1) How about going to a restaurant for dinner for a change?
(a) We're going to change, alright!
(b) Sorry, I have a business meeting tonight.
(c) Sure. Maybe some other time.
(d) Let's eat out instead.
- (2) Excuse me, can you tell me where the museum is?
(a) It's about three blocks long.
(b) Have you considered asking the way?
(c) It's at the end of this street.
(d) No thanks. I've been there twice already.
- (3) Do you still feel homesick?
(a) I do feel a little nauseous, now that you mention it.
(b) Well, I'm getting over it a little.
(c) No, but I miss my family and old friends.
(d) Yes, I've long since recuperated.
- (4) When do you write to your friends?
(a) I wrote three e-mails with them in class.
(b) I do it whenever I have time.
(c) I always use my cell phone to do that.
(d) I really need someone to communicate with.
- (5) I don't have that much cash with me now. Can I pay by card?
(a) Yes, we only accept cash.
(b) That's not a reasonable solution.
(c) Certainly. We accept both cash and credit.
(d) Sorry. You paid with your credit card last time.

英 語 (全6の5)

5 次の英文(1)～(5)の下線部1～4の中で、英語の表現として最も不適切なものをそれぞれ1つずつ選び、その番号をマークせよ。

- (1) Every one of us sometimes₁ feels₂ confusing₃ by the different demands₄ of family, friends, and our workplaces.
- (2) Not known₁ I had the wrong number₂, I left₃ a personal message on a stranger's₄ answering machine.
- (3) It is easy₁ of us to overlook₂ the fact that gestures₃ are an important means of communication₄.
- (4) One of my colleagues₁ likes computers₂ a lot and he spends a vast amount of money₃ on the latest equipments₄.
- (5) My mother had her favorite bag₁ steal₂ while walking₃ along this street₄ last year.

英 語 (全6の6)

6 次の英文(1)～(10)の空欄を補充するのに最も適切なものを、下記の(a)～(d)の中からそれぞれ1つずつ選び、その記号をマークせよ。

- (1) It's a waste of time to listen to () they are saying; they are just arguing for argument's sake.
 (a) that (b) them (c) what (d) which
- (2) Her offer to host the () was welcomed with much appreciation.
 (a) attendance (b) participation (c) companion (d) conference
- (3) His boss has still not really accepted that Mark is () to do the job.
 (a) even (b) provided (c) qualified (d) efficient
- (4) She kept on singing softly until the baby fell () in her arms.
 (a) sleepy (b) asleep (c) sleeping (d) sleepily
- (5) Insurance is sold on the basis of what it covers, but you should carefully () what's not covered in the policy.
 (a) harmonize (b) familiarize (c) organize (d) scrutinize
- (6) Our local representative has not been () in the current political scandal.
 (a) imposed (b) implanted (c) implored (d) implicated
- (7) This new class schedule () the previous one, which was announced at the start of the course.
 (a) suspects (b) supersedes (c) supervises (d) suppresses
- (8) I asked the operator if she could put me () to extension 3816.
 (a) in (b) over (c) around (d) through
- (9) Salespeople in our company have generous expense accounts and can entertain clients knowing that the company will always () the tab.
 (a) pick up (b) bring up (c) pick out (d) bring out
- (10) Some players tended to () about the extent of their role in the victory.
 (a) exaggerate (b) proud (c) monopolize (d) minimize

7 次の(1)～(5)のそれぞれ4つの単語の中から、下線部の発音が他のものと異なるものをそれぞれ1つずつ選び、その記号をマークせよ。

- (1) (a) soften (b) hastening (c) fastener (d) pastetime
 (2) (a) pleasure (b) cleanse (c) breath (d) wreath
 (3) (a) linear (b) decision (c) with (d) malign
 (4) (a) lament (b) courageous (c) mayor (d) label
 (5) (a) hose (b) cease (c) incease (d) deacease