

英 語

(問 題)

2012年度

〈2012 H24061119〉

注 意 事 項

1. 問題冊子は、試験開始の指示があるまで開かないこと。
2. 問題は2～11ページに記載されている。試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁および解答用紙の汚れ等に気付いた場合は、手を挙げて監督員に知らせること。
3. 解答はすべて解答用紙の所定欄にHBの黒鉛筆またはHBのシャープペンシルで記入すること。
4. マーク解答用紙については、受験番号を確認したうえ所定欄に氏名のみ記入すること。
5. マーク欄ははっきり記入すること。また、訂正する場合は、消しゴムでていねいに、消し残しがないようよく消すこと（砂消しゴムは使用しないこと）。

マークする時	<input checked="" type="radio"/> 良い	<input type="radio"/> 悪い	<input type="radio"/> 悪い
マークを消す時	<input type="radio"/> 良い	<input type="radio"/> 悪い	<input type="radio"/> 悪い

6. いかなる場合でも、解答用紙は必ず提出すること。
7. 試験終了後、問題冊子は持ち帰ること。

[I] 次の英文 (i) ~ (viii) を読んで、設問 1 ~ 25 の解答として最も適当なものを、(A) ~ (D) の中から選びなさい。

(i) It's always a gamble when a record company decides to sign a new band, as they can never truly predict which artists will be successful. Sometimes marketing firms will use focus groups to guess at future musical gold mines, but conflicting motivations, among other things, can hamper results. Now, researchers have found that while you may not be able to consciously pinpoint which songs will be hits, your brain just might.

In a study conducted in 2006, Emory neuroeconomist Gregory Berns and his team had teenagers listen to 15-second clips of 120 obscure songs from unsigned artists on Myspace. The researchers recorded participants' neural reactions using fMRI, and the teenagers rated their preferences for each song on a scale of one to five. Three years later, while watching *American Idol* with his children, Berns realized that one of the songs in his study became a hit: "Apologize" by OneRepublic. "I started to wonder if we could have predicted that hit," Berns said in a prepared statement.

Berns and neuroscientist Sara Moore went back and compared the brain data with 2010 sales figures of 87 of the songs. They found that strong responses in one part of the brain accurately predicted about 1/3 of the songs whose albums went on to sell more than 20,000 copies, and weak responses predicted 90 percent of tunes that sold fewer than 20,000 copies. Interestingly, the participants' song ratings did not correlate with sales figures. The experiment may not be representative of the entire population because of its small sample size (only 27 people).

1. Which data could help predict future song sales?

- (A) *American Idol* appearance
- (B) Differences in brain activity
- (C) Focus group song ratings
- (D) None of the above

2. What is one limitation of this study?

- (A) Conflicting motivations hampered results.
- (B) Few people participated in the study.
- (C) Obscure songs from Myspace were used.
- (D) Only 1/3 of the songs tested sold well.

3. Who would NOT benefit from this research?

- (A) Focus groups
- (B) Marketing firms
- (C) Record companies
- (D) Unsigned artists

4. What is the best title for this passage?

- (A) fMRI Results Pinpoint Song Popularity
- (B) Predicting Hit Songs with Brain Activity
- (C) Record Companies Predict Future Sales
- (D) Students Learn to Pick Popular Music

(ii) A report from an ongoing series of studies finds the number of 6th graders involved in social networking has more than doubled and the number taking at least one online class has tripled during the last five years. And the number of teachers with active Facebook accounts has jumped from 11 percent in 2007 to 44 percent in 2010.

Meanwhile, the report also found that one third of today's 6th graders own a personal smartphone, and twice as many teachers and administrators have a smartphone today than in 2008. And among 6th graders, the most likely school technology complaint today is about restrictive filtering, not connectivity speed, the top complaint of 6th graders in 2005.

The findings pull from a survey of nearly 300,000 students, tens of thousands of teachers and parents, and thousands of education support staff, and are the latest results released in the Speak Up report from Project Tomorrow, a national education nonprofit group based in Irvine, California, that advocates the use of science, math, and technology resources in schools.

Data about student and parent technology use was released on March 31, and information about teacher and other education personnel use came out on May 11. The survey points to mobile learning, online and blended learning, and e-textbook use as growing technology trends in schools.

5. How can 6th graders' technology use best be described?

- (A) Increasing
- (B) Involved
- (C) Ongoing
- (D) Restrictive

6. What bothers 6th graders about technology in schools?

- (A) Restrictive filtering of the Internet
- (B) School computers outdated
- (C) Slow Internet connections
- (D) Smartphones not allowed

7. What is the best title for this passage?

- (A) 6th Graders' Online Learning Increasing
- (B) Educational Computer Use Rising
- (C) Elementary Students' Technology Use Up
- (D) Students Use Technology More Than Teachers

(iii) What will our grandchildren think of the disposable plastic bag? Will they see it as a relic of a bygone era? It depends on the winner in a number of battles now playing out both in state and local governments and between the bag manufacturers themselves.

If Oregon succeeds in passing the nation's first statewide ban on plastic bags, it will be over the strenuous objections of the plastics industry, led by South Carolina-based bag manufacturer Hilex Poly. Opponents in the plastic industry have waged an all-out campaign to deny that plastic bags pose a threat to the environment, even raising fears about the safety of reusable bags, breathlessly pointing to studies that show that unwashed bags — like any unwashed fabric — can carry bacteria.

Plastic-bag manufacturers using similar tactics helped defeat a previous statewide bag-ban bill in California last year, and have taken on local initiatives all across the country. In each case — both in Oregon and in California — state legislators have sought not only to protect their local environments, but also to standardize retail practices across two states already dotted with city- and county-level bans. Nationwide, 21 local communities have taken action to ban plastic bags, with Evanston, Illinois, currently debating whether to become the 22nd. Other communities have chosen to tax the bags instead, with Montgomery County, Maryland, passing a five-cent plastic-bag tax on May 3.

8. Which states have a statewide ban on plastic bags?

- (A) California
- (B) Oregon
- (C) South Carolina
- (D) None of the above

9. Why do some people oppose plastic bags?

- (A) Bacteria concerns
- (B) Environmental threat
- (C) Limited recycling
- (D) None of the above

10. Why do some people oppose reusable bags?

- (A) Bacteria concerns
- (B) Environmental threat
- (C) Limited recycling
- (D) None of the above

(iv) Statistics Canada recently released the findings of the 2007-2009 Canadian Health Measures Study. Fewer than one Canadian in twenty meets recommended levels of physical activity. Yet, some Canadians, even some obesity specialists, are in denial that inactivity accounts for Canada's obesity epidemic. Interpretation of the Canadian findings are of direct relevance to U.S. residents who have the same problems of overweight and inactivity.

I previously made the case that the modern obesity epidemic is more attributable to underactivity than to overeating. The big picture is fairly easily stated and it is supported by the Canadian study, despite some intriguing wrinkles. When it comes to putting on weight, farmers know that to fatten up an animal, one needs both plenty of food and restricted activity. This idea can be generalized to human populations. Everywhere on the globe that inactive populations consume calorie-rich foods, one gets an epidemic of obesity.

Much of the focus among health professionals has been on dietary restriction which is difficult, dangerous, and often ineffectual. Perhaps they feel that getting a sedentary population to move is more difficult than putting people on a diet. That is unfortunate because no physically active population throughout history ever had an obesity problem. Whether one observes the lean and well-toned bodies of hunter-gatherers or the slender frames of subsistence farmers, a high activity level prevents obesity.

11. What is the best way to lose weight?

- (A) Dieting
- (B) Exercising
- (C) Farming
- (D) Hunting

12. Which group has an obesity problem?

- (A) Hunter-gatherers
- (B) Physically active people
- (C) Subsistence farmers
- (D) None of the above

13. Who could benefit from these findings?

- (A) Americans
- (B) Farmers
- (C) Hunters
- (D) None of the above

(v) A new study reports that crossing your arms can significantly relieve pain. Twenty brave participants (12 of them women) allowed scientists to inflict pain via pulses of radiant heat from an infrared laser. The laser was aimed at the sensitive radial nerve of the forearm. During some bursts of pain, participants had their arms crossed in front of them. In these trials, participants reported significantly reduced sensations of pain. Researchers also were monitoring brain activity with an electroencephalograph (EEG). During arms-crossed trials, the participants' brains showed smaller spikes of activity suggesting less pain.

The research team, led by neuroscientist Giandomenico Iannetti from University College London, speculates that crossing the arms confuses the brain. The researchers write, "Crossing the hands over the body midline impairs the brain's ability to localize tactile stimuli." More specifically, information about the right side of the body appears to be coming in through the nervous system from the left side of the body, and vice-versa. The fact that participants could see their own hands added to the brain's confusion — because it looked like the right hand was the left hand, and vice-versa. A self-hug should reduce pain in other ways, too, providing contact comfort and a feeling of safety and self-compassion that reduces the nervous system's reactivity to pain and threat.

14. How is pain measured?

- (A) EEG
- (B) Heat
- (C) Laser
- (D) Pulses

15. What helped the subjects feel less pain?

- (A) Crossed hands
- (B) Lower heat
- (C) Shorter bursts
- (D) Tactile stimuli

16. Which phrase does NOT mean the same as the others?

- (A) Arms crossed
- (B) Body midline
- (C) Crossing the hands
- (D) Self-hug

(vi) Intellectual property and business secrets are fast becoming a target for cyber thieves, a study suggests. Compiled by security firm McAfee, the research found that some hackers are starting to specialize in data stolen from corporate networks. McAfee said deals were being done for trade secrets, marketing plans, research and development reports and source code. It urged companies to know who looks after their data as it moves into the cloud or third-party hosting centers. "Cyber criminals are targeting this information based on what their clients are asking for," said Raj Samani, chief technology officer in Europe for McAfee. He said some business data had always been scooped up when net thieves compromised PCs using viruses and trojans in a search for logins or credit card details. The difference now was that there exists a ready market for the data they are finding. In some cases, said Mr. Samani, thieves were running campaigns to get at particular companies or certain types of information.

17. How is this new type of hacking different?

- (A) Clients order specific information.
- (B) Hackers are paid for their efforts.
- (C) Police can't locate the hackers.
- (D) Viruses and trojans are used.

18. How can companies improve security?

- (A) Change passwords.
- (B) Don't store sensitive data.
- (C) Screen for viruses.
- (D) Use a trusted data host.

19. What is the best title for this passage?

- (A) Computer Security Decreasing
- (B) Corporate Data Moves to the Cloud
- (C) Corporations Lose Trade Secrets
- (D) Cyber Thieves Target Firms

(vii) The incidence of near-sightedness (myopia) appears to be increasing. Could our modern lifestyle be responsible for this change? The Sydney Myopia Study of over two thousand schoolchildren suggests that our lifestyle may indeed play a role. In this investigation, participants underwent vision exams and answered questionnaires concerning the amount of time they spent doing near work (such as reading and drawing), mid-range activities (such as watching TV or using a desktop computer), and playing outdoors. Time spent outdoors was protective in preventing or reducing myopia.

Why would outdoor activities reduce the development of myopia? According to the myopia study, the type of outdoor activity did not seem to matter. Thus, time spent playing sports or strolling through the park were both protective. Since light intensity is greater outdoors than inside, perhaps the intensity of light makes a difference. The pupil of the eye constricts more at higher light intensities which reduces image blur. Outdoor light alters neurotransmitter levels in the retina. Thus, light stimulates dopamine release, and this chemical may change the way the eye grows. In addition, we look further into the distance when we are outside. Whatever the mechanisms, it may be best to stop reading this and head out into the sunshine.

20. What has caused the increase in myopia?

- (A) Reading and drawing
- (B) Using the computer
- (C) Watching television
- (D) Not enough information given

21. How does time spent outdoors reduce myopia?

- (A) Outdoor light stimulates dopamine release.
- (B) Outside light is more intense than indoor light.
- (C) We tend to look further into the distance outside.
- (D) Not enough information given

22. What is the best title for this passage?

- (A) Children's Health Growing Worse
- (B) Computer Use Damages Vision
- (C) Increased Activity Improves Health
- (D) Lifestyle May Affect Vision

(viii) Widespread efforts to digitize historical documents and collect histories are giving students access to thousands of perspectives faster and more easily than ever before. And digital tools, such as audio-recorders and videocameras, are making it possible for students to record their own stories and those of their communities, allowing them to play an important part in archiving local history.

“There are lots of voices and a lot of other ways to look at the past” besides a traditional textbook narrative with one perspective, said Kelly Schrum, the director of educational projects for the Center for History and New Media at George Mason University, in Fairfax, Virginia. Through funding from the U.S. Department of Education, the Center has created Teachinghistory.org, a website that collects history resources and materials and provides support for history teachers. The site contains videos, links to resources, and materials that teachers can use in their classrooms. “Now we have a way to make multiple voices available to reach audiences,” Ms. Schrum said.

“We’re having this revolutionary process of digitizing materials,” said B. Justin Reich, the co-director of EdTechTeacher, the umbrella organization that runs the Boston-based Center for Teaching History with Technology. Students now have access to thousands of primary sources through online databases, and the Internet is providing a place for them to express their knowledge and insights, he says. “That’s profoundly motivating for students. When kids have an audience, they do better work,” said Mr. Reich.

23. How do students benefit from digitized materials?

- (A) Access to different perspectives
- (B) Improved test scores
- (C) Increased computer skills
- (D) All of the above

24. What is unique about digital histories?

- (A) Include various kinds of media.
- (B) More accurate than textbooks.
- (C) Receive local support.
- (D) Replace traditional textbooks.

25. Why might some students do better work?

- (A) Enjoy using computers.
- (B) Motivated to express themselves.
- (C) Think multimedia is interesting.
- (D) Want multiple perspectives.

〔Ⅱ〕 次の設問26～40の空所を補うものとして最も適当な語を、(A)～(K)の中から選びなさい。
ただし、使われない語が含まれていることもあります。また、同じ語を繰り返して使うことも
できます。空所に何も補う必要のない場合には (L) を選びなさい。

(A) about	(B) at	(C) by	(D) during	(E) in	(F) into
(G) of	(H) on	(I) to	(J) while	(K) with	(L) NO WORD

26. The mountain rescue team consists _____ doctors, firefighters, and expert rock climbers.
27. The assembly will discuss _____ the needs of the local districts before dividing up the money.
28. My uncle insists _____ watching baseball, and my aunt wishes he would take her shopping instead.
29. We stayed inside _____ the rain, and watched some DVDs that we had borrowed from the library.
30. Ellen was so absorbed _____ her book that she didn't notice someone was knocking on her door.
31. Call me when your train reaches _____ Tokyo and I'll come to the station to pick you up.
32. Did you see that article _____ the newspaper about the man who left his fortune to the library?
33. What he said was concise, convincing, and _____ the point, and I fully agree with him.
34. My teacher said that no one can say _____ certainty what is and what is not a work of art.
35. A major survey published this year gives us insight _____ the challenges facing senior citizens.
36. If we go _____ the book, it will take us days to finish this project, so let's cut a few corners.
37. The revitalization of the language and culture is _____ the heart of the Hawaiian Renaissance.
38. Police have begun looking _____ allegations that the burglary at the museum involved insiders.
39. There are a few things that I don't like about my new job, but _____ and large it's all right.
40. This state- _____ -the-art computer is equipped with all the advanced technologies you need.

〔Ⅲ〕 次の設問41～50のA～Dのうち、誤った英語表現を含んだ部分がある場合にはA～Dの中の一つを、誤りがない場合にはEを選びなさい。

41. A small girl got lost in the park, and a staff had an announcement made to locate her parents.
A B C D

NO ERROR

E

42. It is important to stand for the rights of people who do not have a voice in the government.
A B C D

NO ERROR

E

43. Whenever my mother and sister go shopping, they try on a variety of dresses one over another.
A B C D

NO ERROR

E

44. I just had too much work to tend to, so I backed up my promise to join them for dinner. NO ERROR
A B C D E

45. Last winter influenza was very popular, so many schools had to shut down for weeks at a time.
A B C D

NO ERROR

E

46. Had the brakes fail, the delivery truck would have run off the road and crashed into the trees.
A B C D

NO ERROR

E

47. When you visit our customer, please bring these documents and samples with you. NO ERROR
A B C D E

48. I decided to stay home from work, despite I was almost completely recovered from my cold.
A B C D

NO ERROR

E

49. She doesn't care about Italian cuisine, but she is delighted anytime she can have French food.
A B C D

NO ERROR

E

50. A friend of mine often drops in on me after finishing his part-time job at the supermarket. NO ERROR
A B C D E

〔以下 余 白〕