

2015年度

英 語

(問 題)

&lt;H27091181&gt;

## 注 意 事 項

1. 試験開始の指示があるまで、問題冊子および解答用紙には手を触れないこと。
2. 問題は2～13 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損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、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. 受験番号および氏名は、試験が開始されてから、解答用紙の所定欄に正確に丁寧に記入すること(以下の記入例参照)。所定欄以外に受験番号・氏名を書いてはならない。なお、解答用紙が複数枚ある場合には、それぞれの所定欄に記入すること。
5. 受験番号の記入にあたっては、次の数字見本にしたがい、読みやすいように、正確に丁寧に記入すること。読みづらい数字は採点処理に支障をきたすことがあるので、注意すること。

(記入例) 58001番 ⇒

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(数字見本)

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6. 解答は、マーク解答用紙の対応する解答欄にマークすること。ただし、「IV. Essay Question」については、記述解答用紙に解答すること。
7. 「IV. Essay Question」の下書きは別に配付の下書き用紙を使用すること。
8. 解答はすべて所定の解答欄に記入すること。所定欄以外に何かを記入した解答用紙は採点の対象外となる場合がある。
9. 試験終了の指示が出たら、すぐに解答をやめ、筆記用具を置き、解答用紙を裏返しにすること。
10. いかなる場合でも、解答用紙は必ず提出すること。
11. 試験終了後、問題冊子と下書き用紙は持ち帰ること。

I. Read the following passages and answer questions 1-20.

Questions 1-5

Aleks Swerdlow, 29 years old of Santa Clara, California, who is expecting her first baby in July, owns several wearable devices, including a fetal heartbeat monitor. She wants her newborn to eventually wear devices, too. "I love gadgets, wearables specifically," said Ms. Swerdlow. "So it seemed a natural extension to have that available for my child, especially if it allows me to not worry about how the baby is sleeping and breathing." She recently paid more than \$200 for Mimo Baby, a set of three baby bodysuits that includes a device used to measure respiration, skin temperature and body position. The product sends the vital-sign information to a smartphone. Ms. Swerdlow also is on the wait list for a \$250 so-called smart sock made by startup Owlet Baby Care Inc. that senses a baby's oxygen saturation and heart rate.

The wearable-device movement first spawned a wealth of digital-fitness trackers, smart watches and head-mounted displays for adults to monitor their health or interact with their smartphones. Now it is invading the crib, targeting tech-enthused parents eager to swathe their newborns in gadgets that send back all sorts of data. Yet the rush by startups to roll out wearable baby monitors containing batteries and wireless technology raises safety concerns. Few regulations exist beyond laws requiring products for children to be tested for toxic chemicals and metals. Like their adult counterparts, baby wearables are also drawing questions about their usefulness.

Safety issues have surfaced with similar devices. A maker of fitness trackers, Fitbit Inc., voluntarily recalled a digital bracelet recently after consumers complained of blisters and rashes, and faces a class-action lawsuit related to the accusations. Fitbit contends that there is no merit to the lawsuit because the company issued its recall and offered refunds to consumers before the complaint was filed. For their part, manufacturers such as Owlet and Rest Devices Inc., maker of Mimo Baby, say they take safety concerns seriously and constantly test their products. The manufacturers are careful to emphasize their products aren't medical devices, which would require Food and Drug Administration approval if they are intended to diagnose or treat disease. "We can't diagnose conditions, we can't prevent things," said Dulcie Madden, chief executive of Rest Devices. "We are an extra layer of assurance."

[Adapted from *The Wall Street Journal*, May 12, 2014, "Oh, Baby: Wearables Track Infants' Vital Signs" by Yuliya Chernova.]

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1. One conclusion which can be reached after reading the passage is that
  - ① Baby wearables have no value other than to please tech-enthused parents.
  - ② Before using baby wearables, babies should be tested for toxicity.
  - ③ Lawsuits may not be made against manufacturers of baby wearables.
  - ④ The merit of baby wearables is not related to diagnosis or treatment.

2. Which of the following is NOT representative of vital-sign information?

- ① fetal heartbeat AND oxygen saturation
- ② fitness AND breathing
- ③ respiration AND heart rate
- ④ skin temperature AND oxygen saturation

3. Which statement best describes the wearable-device movement?

- ① It began as a result of interest by wealthy people concerned with fitness.
- ② It has popularity among tech-enthused parents of infants.
- ③ It was the forerunner to smartphones.
- ④ The parents of all newborn infants can benefit.

4. What is the main cause of safety concerns about baby wearables?

- ① Batteries and wireless technologies are dangerous.
- ② Product quality control has yet to be appropriately regulated.
- ③ The number of class-action lawsuits is increasing.
- ④ Wearable baby monitors are likely to roll.

5. What does the underlined word "swathe" mean?

- ① attach      ② clothe      ③ connect      ④ wash

## Questions 6-10

The most interesting and perhaps least understood of the relations between words and things is the relation between words and future events. When we say, for example, "Come here!" we are not describing the extensional world about us, nor are we merely expressing our feelings; we are trying to *make something happen*.

What we call "commands," "pleas," "requests" and "orders" are the simplest ways we have of making things happen by means of words. There are, however, more roundabout ways. When we say, for example, ( 6 ), we are of course uttering an enthusiastic "purr" about the man we give support to in the election, but we may also be trying to influence how other people vote. Again, when we say, ( 7 ), we are saying something that cannot be scientifically verified; nevertheless, it may influence others to give support to the battle. Or if we merely state as a fact, ( 8 ), we may be influencing others to buy one.

Consider, too, such a statement as ( 9 ). Such a statement about future events can only be made in a system in which symbols are independent of things symbolized. The future, like the recorded past, is a specifically human dimension. To a dog, the expression ( 10 ) is meaningless—at best it will look at you expectantly, hoping for the offer to appear now. Human beings are unique in their ability to react meaningfully to such expressions as "next Saturday" or "twenty years from now, I promise to pay." That is to say, a map can be made despite the fact that the territory it stands for is not yet an actuality. Guiding ourselves by means of such maps of territories-to-be, we can impose a certain predictability upon future events.

[Adapted from *Language in Thought and Action*, 5<sup>th</sup> ed., by S. I. Hayakawa & Alan R. Hayakawa, New York: Harcourt, 1990.]

Fill in each of the blank spaces, ( 6 ) to ( 10 ), with the most appropriate sentence from the options below. Spaces ( 6 ) to ( 10 ) correspond to questions 6 to 10 on the answer sheet.

- ① "Hamburger tomorrow"
- ② "I'll meet you tomorrow at two o'clock in front of Union Station"
- ③ "Our candidate is a great American"
- ④ "Our war against the enemy is God's war. God wills that we must triumph"
- ⑤ "This drink contains calcium"

Questions 11-15

Do you remember your first birthday? How about what you ate for breakfast weeks ago? For most people, such events slip through the sieve of memory, never to be retrieved. Now, the first study of its kind in mice suggests that the brain may clear away that old information in the process of forming new memories.

For the most part, the brain stops producing new neurons—a process called neurogenesis—soon after birth. In humans, mice, and some other species, however, neurogenesis continues throughout life in a brain region that encodes memories about space and events.

Although the precise role of neurogenesis in memory is still controversial, more than a decade of research has demonstrated that boosting neurogenesis with exercise and antidepressants such as Prozac can increase rodents' ability to learn new information about places and events. A few years ago, however, neuroscientist Paul Frankland of the Hospital for Sick Children in Toronto, Canada, noticed that some of the animals in his experiment ( A ) did worse on certain memory tasks when their neuron birth rates had been ramped up. In particular, they performed poorly on tests that required them to retain details about past events.

Frankland and colleagues wondered if the explosion of new neurons could help explain the widespread phenomenon of infantile amnesia—the inability of adults to remember events that occurred before they were 2 to 4 years old. Some theoretical models suggested that new neurons destabilize memories already stored in the hippocampus by degrading the information there, but the idea had never been explored in live animals.

To test the hypothesis, Frankland and his team first compared the stability of memories in adult mice versus 17-day-old mice, which are equivalent to human babies less than a year old. They removed the rodents from their familiar, sawdust-lined enclosures and put them into a box with a metal floor that delivered brief foot shocks. After returning the mice to their cages, over the course of 6 weeks the researchers placed the rodents back in the box but did not repeat the shocks. More than a month later, the adult mice continued to freeze when placed in the environment where they'd had the painful experience. The younger mice, however, forgot the association within a day. The juveniles “can remember for 24 hours, but then they forget,” Frankland says.

[Adapted from *ScienceNOW*, May 8, 2014. “How the Brain Deletes Old Memories” by Emily Underwood. Retrieved from: <http://news.sciencemag.org/brain-behavior/2014/05/how-brain-deletes-old-memories>]

11. Which of the following is the main finding reported in this passage?

- ① that mice who are younger easily forget information within a 24-hour period
- ② that prior painful experience may cause freezing when placed in an environment
- ③ that the brain stops producing new neurons soon after birth
- ④ that the production of new neurons in the brain may cause loss of old memories

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12. Which word best fits in ( A )?

- ① actually
- ② expectedly
- ③ hardly
- ④ mistakenly

13. What is common to both Paul Frankland's experimental animals and the phenomenon of infantile amnesia?

- ① approximate age onset of 2 to 4 years old
- ② failure to produce new neurons in the brain
- ③ failure to remember some past events
- ④ uncertainty about its widespread occurrence

14. What is the hypothesis referred to in this passage?

- ① boosting the production of neurons with exercise and antidepressants increases the ability to learn new information
- ② degrading the information in the hippocampus had never been tested in live animals
- ③ infantile amnesia is the inability of adults to remember events that occurred before they were a certain age
- ④ new neurons may be the cause of loss of memories stored in the hippocampus

15. In Frankland and his team's experiment, how did the adult mice and the younger mice behave when returned to the box where they had previously experienced shocks?

- ① Both the adult and the younger mice froze.
- ② Neither the younger mice nor the adult mice froze.
- ③ The younger mice did not freeze, but the adult mice did.
- ④ The younger mice froze, but the adult mice did not.

## Questions 16-20

All mammals have a strong exploratory urge, but for some it is more crucial than others. It depends largely on how specialized they have become during the course of evolution. If they have put all of their evolutionary effort into the perfection of one particular survival trick, they do not need to bother so much about the general complexities of the world around them. So long as the ant-eater has its ants and the koala its gum leaves, then they are well satisfied, and the living is easy. The non-specialists, on the other hand—the opportunists of the animal world—can never afford to relax. They are never sure where their next meal may be coming from, and they have to know every nook and cranny, test every possibility, and keep a sharp look-out for the lucky chance. They must explore, and keep on exploring. They must investigate, and keep on re-checking. They must have a consistently high level of curiosity.

It is not simply a matter of feeding: self-defense can make the same demands. Porcupines, hedgehogs and skunks can snuffle and stomp about as noisily as they like, heedless of their enemies, but the unarmed mammal must be forever on the alert. It must know the sign of danger and the routes of escape. To survive, it must know its home range in every minute ( A ).

Looked at in this way, it might seem rather inefficient not to specialize. Why should there be any opportunist mammals at all? The answer is that there is a serious snag in the specialist way of life. Everything is fine as long as the special survival device works. But if the environment undergoes a major change, the specialist is left stranded. If it has gone to sufficient extremes to outstrip its competitors, the animal will have been forced to make major changes in its genetic makeup, and it will not be able to reverse these quickly enough when the crunch comes. If the gum-tree forests were swept away, the koala would perish. If an iron-mouthed killer developed the ability to munch up porcupine quills, the porcupine would become easy prey. For the opportunist, the going may always be tough, but the creature will be able to adapt rapidly to any quick-change act that the environment decides to put on. Take away the mongoose's rats and mice, and it will switch to eggs and snails. Take away a monkey's fruit and nuts, and it will switch to roots and shoots.

Of all the non-specialists, the monkeys and apes are perhaps the most opportunist. As a group, they have specialized in non-specialization. And among the monkeys and apes, the naked ape, the human, is the most supreme opportunist of them all. All young monkeys are inquisitive, but the intensity of their curiosity tends to fade as they become adult. With us, the infantile inquisitiveness is strengthened and stretched out into our mature years. We never stop investigating. We are never satisfied that we know enough to get by. Every question we answer leads to another question. This has become the greatest survival trick of our species.

[Adapted from *The Naked Ape: A Zoologist's Study of the Human Animal* by Desmond Morris. Tokyo: Macmillan Language House, 1990.]

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16. What best describes the general theme of this passage?

- ① Curiosity has enabled the supreme opportunist to prevail.
- ② Opportunists are more curious than non-opportunists.
- ③ The answer to one question leads to another question.
- ④ The going is always difficult for opportunists.

17. What do the two contrasting mammalian types demonstrate?

- ① 'Adaptation' is a distinguishing evolutionary predictor of survival.
- ② Being less complex, a single survival trick predicts survival.
- ③ 'Exploration' is a distinguishing evolutionary attribute of mammals.
- ④ Interest in the complex environment is not related to evolution.

18. What is most accurate in describing the opportunists of the animal world?

- ① Best meals often result from a lucky chance.
- ② They are satisfied when the living is easy.
- ③ They are usually prone to stress, and often go hungry.
- ④ They must be constantly adaptable to their surroundings.

19. Which of the following is NOT true according to this passage?

- ① Curiosity in humans increases in an age-related way.
- ② Curiosity in monkeys declines with increasing age.
- ③ Koalas and porcupines are specialist opportunists of the animal world.
- ④ The mongoose and the monkey are specialist opportunists of the animal world.

20. Which of the following best fits in ( A )?

- ① address      ② detail      ③ place      ④ time



II. In each of the following groups, 21 to 30, choose the sentence in which the underlined word or phrase is most different in meaning from the underlined words or phrases in the other sentences.

21.

- ① Bill is prudent in doing whatever he is asked to do.
- ② I don't feel inclined to go to the party tonight.
- ③ I think she is disposed to accept his offer.
- ④ Parents are prone to worry about their children.

22.

- ① Having two sons at college further compounded his financial burden.
- ② I oppose changes that may exacerbate fear among the residents.
- ③ It's not as easy as you think to restore the lost trust of a mistreated animal.
- ④ You should refrain from any action that would aggravate the situation.

23.

- ① Energy drinks can't compensate for lack of sleep.
- ② His wife supplements his salary with her part-time job.
- ③ My sister's friends sometimes take me for her.
- ④ The limited kitchen space was offset by additional storage space in the dining room.

24.

- ① He looks rather sophisticated for his age.
- ② I like my sister's puppyish behavior.
- ③ She is quite innocent in managing her finances.
- ④ You are too naïve if you believe what he says.

25.

- ① I cannot conceive why he has done such a stupid thing.
- ② I consented to the medical treatment suggested for my mother.
- ③ It is difficult to envisage the global economy in a proactive manner.
- ④ It may be impossible for us to grasp the gist of the international conspiracy.

26.

- ① European leaders wish to succeed in unifying their economies.
- ② Green marketing tries to integrate environmental and economic goals.
- ③ Many schools incorporate outdoor activities in the curriculum.
- ④ The police could not easily disperse the angry demonstrators.

27.

- ① History proves that no country will flourish forever.
- ② People suspect that the company will collapse sooner or later.
- ③ The Roman Civilization began to decline when it became too rich and powerful.
- ④ Thousands of houses were destroyed by the tsunami which was 10 meters high.

28.

- ① For her wedding day, her father promised to indulge her every whim.
- ② Her love for her nephew caused her to spoil him completely.
- ③ It is not possible to gratify insatiable curiosity.
- ④ Mr. Smith's words of wisdom sometimes irritate me.

29.

- ① Each team member was too assertive, and consequently the team lost the game.
- ② He is interested in that product and, furthermore, has a proposal.
- ③ It snowed heavily, and therefore the baseball game was called off.
- ④ Productivity has fallen. Accordingly, workers' bonuses will be reduced.

30.

- ① He tried to dissuade his son from making a lone trip in such rugged wilderness.
- ② He visited schools throughout the country in order to promote the value of volunteerism.
- ③ Measures to encourage the development of overseas markets are required.
- ④ This medicine has been developed to boost the immune system and may have anticancer effects.

III. In each of the following groups, 31 to 40, choose the most ill-formed sentence.

31.

- ① A salmon is born in the river, grows up in the sea and comes back to the river.
- ② "Birds of a feather flock together" is a well-known proverb.
- ③ I really did not like an apple when I was a child.
- ④ When you were out, a Mr. White came and left a message for you.

32.

- ① After two hours of heated discussion, any member of our division finally agreed to the proposal.
- ② Any application form without payment of the examination fee will be rejected.
- ③ Any member of this department who can speak more than two foreign languages should participate.
- ④ You can contact the technical support center for any question about this product.

33.

- ① I could like to call him a bully, but I won't.
- ② In those days you could take a subway for thirty cents.
- ③ Jack and Tom made a trip to Barcelona, but they couldn't speak Spanish.
- ④ When I lived with my parents, I could use my father's car.

34.

- ① Haruki Murakami has written a lot of novels.
- ② I have often jogged with my roommate along that river.
- ③ The author has received a major literary award for his science fiction.
- ④ When have you seen *The Phantom of the Opera*?

35.

- ① A large number of students has attended the meeting.
- ② Jeremy as well as Paul wants to buy a new mobile phone.
- ③ Many a member has protested against the proposal.
- ④ This pair of shoes is expensive, but won't wear out in a year or so.

36.

- ① I got my husband to stop smoking, because I was worried about his health.
- ② Mr. Smith made his students write three essays, though they didn't want to.
- ③ My father let my sister go to England, as she had really wanted to.
- ④ Tom had Jane fall down by putting his leg in her way.

37.

- ① I can't imagine what our life would be like, if it were not for PCs and the Internet.
- ② I would have been in time for the class, if I had woken up thirty minutes earlier.
- ③ If I did not make a visit to Japan and see him three years ago, we would not have been married.
- ④ If I had followed all the good advice my parents gave to me, I would now be in better health.

38.

- ① Mary made a few, if any, mistakes on her essay.
- ② My grandfather made not a little contribution to the welfare of the handicapped.
- ③ Only a few, five to be precise, attended the meeting yesterday.
- ④ There was a little, perhaps much, money left in her bank account.

39.

- ① I think it is quite risky that a young girl walks in that area late at night.
- ② I was surprised that my neighbor won 10 million yen in a public lottery.
- ③ This is the fact that they tried to conceal it from public eyes.
- ④ We cannot accept the idea that equal opportunities are not provided to all.

40.

- ① I don't know your preference, so please help yourself.
- ② John saw himself as the best candidate for the advertised position.
- ③ Nancy considers Bill to have outwitted herself.
- ④ The dream was so vivid that he felt himself to be awake.

IV. [Essay Question] Discuss what you consider to be a global problem, why, and your ideas about how to solve it.  
Write your answer in English.

[以下余白]

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英語  
(記述解答用紙)

IV.