

- 注意事項
1. この科目の問題用紙は 9 ページ、解答用紙はマークカード 1 枚である。
  2. 解答用紙(マークカード)に、氏名・フリガナ・受験番号の記入および受験番号のマークを忘れないこと。
  3. マークは HB の鉛筆で、はっきりとマークすること。
  4. マークを消す場合、消しゴムで完全に消し、消しきずを残さないこと。
  5. 解答用紙(マークカード)は折り曲げたり、メモやチェックなどで汚したりしないように注意すること。
  6. 各問題の選択肢のうち質問に適した答えを 1 つだけ 選びマークすること。1 問に 2 つ以上解答した場合は誤りとする。
  7. 問題用紙は解答用紙(マークカード)とともに机上に置いて退出すること。持ち帰ってはいけない。

I 次の英文を読み、下記の設問に答えなさい。

In 1882, the American writer Mark Twain published a short story about an ( 1 ) jingle<sup>\*1</sup> that kept repeating itself in his mind. In the story, Twain was able to get rid of the tune by passing it on to someone else. However, today, this phenomenon of music stuck in the head is quite usual and affects up to 99 percent of the population. Researchers are just beginning to identify the reasons these catchy tunes, also known as *earworms*, have become so common.

But first, a little background: What exactly is an earworm? An earworm begins when a person hears a tune — on the radio, on an iPod®, on television, or in a movie. Later a piece of the song returns to the person's mind and begins repeating itself. This earworm may stay with the person for days, starting at odd times when the mind is at rest. It may also appear when the person has an experience that he or she associates with the song. For example, a person might hear a tune while watching an exciting basketball game. Later, while the person is playing basketball, the tune might return as an earworm. Earworms can also infect other people. If a person with the earworm starts humming the tune, people nearby who are also familiar with the tune can catch the earworm.

Neurologist and author Oliver Sacks suggests that earworms may be a product of modern life. Sacks notes that these days, people listen to portable audio devices when they are driving, exercising, or doing homework. Even without earbuds<sup>\*2</sup>, people are subjected to tunes on telephones, in elevators, and in offices, so it shouldn't be surprising that this supposedly harmless background noise attaches itself to their brains. The likelihood that an earworm will infect a person is greater today simply because there are more tunes out there than in the past.

In fact, earworms have become so frequent that the study of this phenomenon has now become a topic of academic research. According to James Kellaris, a consumer psychologist at the University of Cincinnati, an earworm is a sort of brain itch. He says that tunes, especially if they are catchy and repetitive, can affect the brain in the same way that histamines<sup>\*3</sup> create an itch on the body. The brain repeats the tune as a way of scratching the itch. For some people, this can last a few hours, but for others, it may go on for days. Kellaris recommends listening to the song all the way through to help make the earworm go away. If that doesn't work, however, he suggests that the person be patient and wait for the earworm to go away spontaneously, as most itches eventually do.

Why does the brain itch? It seems that music has a powerful effect on the human consciousness. Sad music causes people to cry, while relaxing music ( 2 ) stress. Music written for scary movies creates fear, and dance music gets people up and moving. Studies show that loud and fast music even makes people drive faster. These psychological and behavioral effects speak to the deep associations that humans have with musical sounds.

The power of music has not gone ( 3 ) by the advertising industry, which is partly responsible for the creation of earworms as well. Since the early days of radio, jingle writers have studied ways to make songs stick. Music that is catchy or repetitive has a greater chance of staying in the mind. When an effective jingle reappears in the mind as an earworm, the brain replays not only the tune but also the words and products that the jingle writer is trying to sell. In fact, Petr Janata, a cognitive neuroscientist who has studied music and the brain, says that music can function like a movie soundtrack<sup>\*4</sup>. As this soundtrack plays, it creates a sort of "mental movie" in the mind. Such findings might suggest that earworms can help advertisers by ( 4 ) the consumer of their product. However, whether or not advertisers' jingles will be effective is difficult to say. Already some people have raised protests. In one Michigan community, residents requested that an ice cream truck not play its catchy tune when it drove through their streets. They did not like the way the song continued in their minds even after the truck had left their neighborhood.

A final factor in earworms is the individual: Some people are more likely to get them than others. Kellaris says that musicians tend to be more vulnerable to earworms, perhaps because of their sensitivity to music. Women are also more susceptible than men. However, different brains have different responses, so it is not possible to predict which tunes will become earworms for which people.

With these scientific findings, more and more people are becoming aware of earworms and the ways that they can be used to influence memory. As researchers in science and industry begin to explain what causes them and how they work, advertisers and musicians will use this knowledge to make their tunes stand out in an increasingly noisy environment. It is entirely possible that some day consumers will need to defend themselves against music that seems to ( 5 ) private mental space.

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注: \*1 jingle: a short song used in advertisement

\*2 earbuds: small earphones inserted into the ears

\*3 histamines: chemical compounds that increase the flow of blood in your body and are involved in allergic reactions

\*4 soundtrack: the recorded music from a movie

問 1 本文中の(1)～(5)の空欄に入る最も適切なものを、それぞれ①～⑤の中から一つずつ選びなさい。

(1) ① annoy ② annoyance ③ annoyed ④ annoying ⑤ annoyingly

(2) ① summons ② heightens ③ imposes ④ maximizes ⑤ relieves

(3) ① noted ② noticeable ③ noticed  
④ unnoticed ⑤ unnoticing

(4) ① recalling ② recollecting ③ remembering  
④ reminding ⑤ retrieving

(5) ① divide ② enrich ③ invade ④ offer ⑤ reproduce

問 2 本文中の(6)～(10)の語(句)に最も近い意味のものを、それぞれ①～⑤の中から一つずつ選びなさい。

(6) get rid of  
① banish ② explode ③ pitch ④ seize ⑤ whistle

(7) at odd times  
① continuously ② unpredictably ③ initially  
④ graphically ⑤ pleasantly

(8) subjected to  
① animated for ② concealed from ③ exposed to  
④ gladdened by ⑤ transferred over

- (9) spontaneously  
 ① after much delay      ② by degrees      ③ for a moment  
 ④ of its own accord      ⑤ once and for all

- (10) stand out  
 ① be conspicuous      ② calm people's excitement  
 ③ become dim      ④ dissolve themselves  
 ⑤ remain silent

問 3 下記の(11)~(14)の各問の答えとして最も適切なものを、それぞれ①~⑤の中から一つずつ選びなさい。

- (11) What is the appropriate title of the whole passage?  
 ① "Portable Audio Devices Change the Way We Listen to Music"  
 ② "Why Psychological Problems Can Be Passed from Person to Person"  
 ③ "A Marketing Technique: How Advertisers Can Use Earworms as a Way to Sell Products"  
 ④ "Sticky Tunes: The Phenomenon of Earworms Affects Many People Today"  
 ⑤ "Who Coined the Term 'Earworm?'"

- (12) Which of the following sentences is consistent with the passage?  
 ① Mark Twain got an earworm out of his head by writing a story.  
 ② You can spread your earworm around by humming the well-known tune.  
 ③ Music affects the mind but not behavior.  
 ④ An earworm is always an entire song.  
 ⑤ All people are happy about jingles created by advertisers.

- (13) Which of the following is NOT stated in the passage?  
 ① An explanation of how earworms might be occurring in the brain.  
 ② An explanation of why earworms occur more frequently now.  
 ③ An explanation of how advertisers use knowledge of earworms.  
 ④ An explanation of the ways to make earworms disappear.  
 ⑤ An explanation of the classical genre most likely to produce earworms.

- (14) Which of the following is supported by the passage?  
 ① You can stop earworms by putting a paper bag over your head and breathing that way for a few minutes.  
 ② If you listen to a song during a memorable event, that song could become an earworm in a similar experience.  
 ③ Listening to music while studying helps people do better on tests.  
 ④ It is misleading to say that songs stuck in our heads create a "brain itch" that can only be scratched by repeating the tune over and over.  
 ⑤ A male who rarely listens to music is more prone to get earworms than a female musician.

II 次の英文が論理的に意味の通る内容として完成するように、(15)~(24)の各空欄に入る最も適切なものを、下の①~⑩の中から一つずつ選びなさい。

If you don't have a very good ( 15 ), supplements might be a temporary ( 16 ) to what you would get from a healthy diet. They may give you a boost ( 17 ) and keep your metabolism ( 18 ). But overuse of these supplements can have serious negative ( 19 ). So it's important to follow ( 20 ) ( 21 ). Getting your daily ( 22 ) from regular meals is always ( 23 ) trying to ( 24 ) them from supplements alone.

- ① alternative      ② appetite      ③ dosage      ④ in good balance  
 ⑤ nutrients      ⑥ obtain      ⑦ of energy      ⑧ preferable to  
 ⑨ side effects      ⑩ the recommended

III 次の(25)~(34)の各対話中の空欄に入る最も適切な語(句)を、それぞれ①~⑤の中から一つずつ選びなさい。

- (25) A: Will you see Tom in the cafeteria today? I'd like you to give him a message for me.  
 B: I'm not going there for lunch, but if I \_\_\_\_\_ him later, I'll be happy to tell him you have a message.

- ① should see      ② had seen      ③ had to see  
 ④ saw      ⑤ would have seen

- (26) A: Why didn't Agatha join the sports club?

B: She objected to \_\_\_\_\_ annual dues.

- ① it charge      ② it charged      ③ it is charging  
 ④ it is charged      ⑤ its charging

- (27) A: Today, lunch is \_\_\_\_\_ me. Order whatever you like.

B: Thank you very much.

- ① for      ② in      ③ on      ④ to      ⑤ with

- (28) A: I don't think the Burtons will ever invite Robert again.

B: No, he succeeded \_\_\_\_\_ everybody angry with his remarks.

- ① in making      ② make      ③ made      ④ to make      ⑤ to making

- (29) A: What happened in physics class today?

B: Nothing much. Dr. Johnson spent most of the hour \_\_\_\_\_ his newly published book.

- ① refer      ② referring      ③ referring to  
 ④ to referring      ⑤ to referring to

- (30) A: Were you able to locate the person \_\_\_\_\_ wallet you found?

B: Fortunately for her, yes.

- ① that's      ② where      ③ which      ④ who's      ⑤ whose

- (31) A: This cake is terrible. It's hard as rock. What happened?

B: It's my grandmother's recipe, but she forgot to tell me how long \_\_\_\_\_ it.

- ① baked      ② did I bake      ③ do I bake  
 ④ might I bake      ⑤ to bake

- (32) A: It is raining, but I have no umbrella.

B: Here is mine, and I insist \_\_\_\_\_ it.

- ① on you take      ② that you take      ③ that your taking  
 ④ you taking      ⑤ you to take

- (33) A: Is it true that spaghetti didn't originate in Italy?

B: Yes. The Chinese \_\_\_\_\_ spaghetti-like noodle dishes for a long time before some traveler brought the idea back to Italy.

- ① had been making      ② had been made      ③ have been making  
 ④ have been made      ⑤ have made

- (34) A: Why aren't you ready to go?

B: I'm ready.

A: How can that be? It's freezing outside, \_\_\_\_\_ you're wearing shorts and a T-shirt!

- ① because      ② for      ③ so      ④ till      ⑤ yet

IV 次の(35)と(36)の各問題文に対する答えとして最も適切なものを、それぞれ①～⑤の中から一つずつ選びなさい。

(35) Mr. Allen is twenty-eight years older than his son Frank. Two years ago, he was five times as old as Frank was at that time. What is the present age of Frank?

- ① 5            ② 7            ③ 9            ④ 11           ⑤ 13

(36) Barbara wanted to see how much she spent on lunch daily over the course of an average workweek. For Monday and Thursday together, she spent \$5.43 in total. On Tuesday and Wednesday, she spent \$3.54 on each day. On Friday, she spent \$7.89. What was her average weekday cost for lunch?

- ① \$3.19       ② \$3.75       ③ \$3.90       ④ \$4.08       ⑤ \$4.23

V 次の(ア)～(オ)の日本語の文の意味を表すように、それぞれ①～⑩の語(句)を並べ替えて英文を完成させ、(37)～(46)の空欄に入るものの番号を答えなさい。

(ア) 最近、私は運動によって、毎日摂取する余分なカロリーの一部を燃焼させることができています。

Recently, exercise has ( ) ( ) ( ) ( 37 ) ( ) ( ) ( ) ( ) ( 38 ) ( ) ( ) in daily.

- ① allowed      ② burn          ③ calories      ④ I  
⑤ me            ⑥ some of      ⑦ take          ⑧ that  
⑨ the excess   ⑩ to

(イ) 皆が私と一緒に笑っているのを見て、初めて自分のジョークがどんなに面白かったのかに気づいた。

It ( ) ( ) ( 39 ) ( ) ( ) ( ) ( ) ( 40 ) ( ) ( ) my jokes had been.

- ① everyone    ② not            ③ humorous    ④ I saw  
⑤ laughing with ⑥ how           ⑦ me            ⑧ that I realized  
⑨ until        ⑩ was

(ウ) 自動車メーカーは顧客の要求を満たすために、電気自動車の開発に取り組んでいる。

Automakers are ( ) ( 41 ) ( ) ( ) ( ) ( ) ( ) ( 42 ) ( ) ( ) ( ) demand.

- ① customer    ② electric       ③ in order      ④ meet  
⑤ of            ⑥ on            ⑦ the development  
⑧ to            ⑨ vehicles      ⑩ working

(エ) 日本の医学の近代化に果たした森鷗外の貢献は、彼が近代日本文学の形成に果たした貢献に匹敵する。

Ogai Mori's ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( 43 ) ( 44 ) ( ) ( ) to the formation of modern Japanese literature.

- ① contributions   ② he            ③ Japanese      ④ made  
⑤ medicine       ⑥ of            ⑦ parallel       ⑧ the modernization  
⑨ those           ⑩ to

(オ) かつて日本では、企業が従業員を定年まで雇い続けることは、当然のことだと考えられていた。

Formerly in Japan, ( ) ( ) ( ) ( 45 ) ( ) ( ) ( ) ( ) ( 46 ) ( ) ( ) workers up to retirement age.

- ① was            ② companies    ③ employ        ④ for  
⑤ granted       ⑥ it            ⑦ taken          ⑧ that  
⑨ to            ⑩ would continue