Ⅱ期

外　国　語

英　語：１～６ページ

1. 試験開始の合図があるまで，この問題冊子を開いてはいけません。
2. 解答時間は**60分間**です。
3. 解答用紙の記入にあたっては，**解答用紙の注意事項**を参照し，HBの鉛筆を使用して丁寧にマークしなさい。
4. 受験番号，氏名，フリガナを**解答用紙**に記入しなさい。受験番号は正しくマークしなさい。
5. マークの訂正には，消しゴムを用い，消しくずは丁寧に取り除きなさい。
6. 試験開始後，ただちにページ数を確認し，落丁や印刷の不鮮明なものがあれば申し出なさい。
7. 試験終了後，**解答用紙のみを提出しなさい。**問題冊子は**持ち帰りなさい。**
8. 解答用紙は折り曲げないようにしなさい。
9. 受験番号欄にマークミスがあった場合は，採点対象外となります。

PASSAGE I

Use the content from this passage, separated into 13 sections *(sec 1 - sec 13)*, to answer the ***PASSAGE I QUESTIONS.***

sec 1 Vaping is the term often used to describe the act of using an electronic cigarette. E-cigarettes are battery-operated devices that heat a liquid solution — usually, but not always, containing nicotine — turning it into a vapor that can be inhaled. If the base nicotine mixture is not **palatable**, many flavors, such as mint, apple and others, can make vaping attractive, especially to adolescents.

sec 2 Unfortunately, today's teens, and even **tweens**, know more about vaping than their parents. E-cigarettes and vaping are part of a trend going back at least nine years in the U.S. First publicized as a safer alternative to smoking tobacco, vaping caught on because it didn't contain the carcinogens[1] or tars found in most smoking tobacco products. Also, vaping was supposed to eliminate the dangers of secondhand smoke to those nearby.

sec 3 It all sounded pretty harmless in theory. However, those theories were wrong.

sec 4 There are dangers associated with vaping. No matter the delivery method, nicotine is addictive. Studies have shown that it may be harder to quit a nicotine addiction than a heroin addiction. Most discussions about helping teens stop vaping fail to address that they already may be addicted. In many cases, teens at this phase may need replacement or medications, such as bupropion, to help curb the cravings that can be overwhelming.

sec 5 If you've ever tried to quit smoking, or had a friend or family member try to quit smoking, you know how difficult it can be. Therefore, in certain situations, e-cigarettes still are considered an option for transitioning someone who has smoked tobacco for years to nonsmoking status.

sec 6 The flavors and stabilizers in e-cigarettes can cause unknown inflammation[2] to delicate lung tissue. All one has to do is turn on the national news to hear about more and more cases where severe — sometimes irreversible — damage to the lungs, and in extreme cases even death, occurs in teens who were vaping. Adolescents often feel that bad things happen to everyone else, but the risks associated with vaping are real.

sec 7 Many teens are taking things a step further, adding cannabis, CBD oils and other dangerous additives to vaping devices. When patients show up to the emergency department in respiratory distress from vaping, it's challenging for physicians to treat them. This is due to the difficulty in correctly identifying what they inhaled, especially when they are intubated[3] or unconscious.

sec 8 The length of time spent vaping can be much longer than smoking a standard cigarette. Did you know most cigarettes are smoked within two to five minutes? E-cigarettes **on the other hand** can last up to 20 minutes, delivering more nicotine and damaging chemicals to the lungs. In addition, some vaping mixtures can contain 20 times the nicotine that a single cigarette contains.

sec 9 Brain development can be affected. Nicotine can affect concentration and brain development, according to information and data from a new report from the surgeon general. Also, nicotine use in young adults still can lead to other illicit substance use.

sec 10 Talk with your kids about the dangers of vaping, but also look for warning signs including:

- Changes in emotions
- Trouble sleeping
- Scents of fruity odors on skin, breath and clothes
- Strange cylinders, chargers or batteries lying around

sec 11 Remember, it's important to have conversations rather than **suspicion** and accusations. Encourage your teen to look into the warnings and media stories related to vaping or reach out to his or her primary care provider with questions.

sec 12 Many providers ask their patients about alcohol, drug use and smoking, yet forget to ask about vaping. Project for Teens is an example of a local outreach program that provides support and education on the dangers of vaping. Similar programs may be available in your area. Resources are available to help teens quit through the American Lung Association and teen.smokefree.gov.

sec 13 It's up to everyone to work together as a community to stop the young population from starting or continually using vaping products.

Vocabulary

(1) ***carcinogen****: cancer causing substance; (2)* ***inflammation****: the body's reaction to injury or infection; (3)* ***intubated****: breathing through a tube*

Excerpt from "A doctor's warning about the dangers of vaping" (2021) by Graham King, M.D.
https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/a-doctors-warning-about-the-dangers-of-vaping

PASSAGE I QUESTIONS

1. In *sec 1*, which of the following best reflects the meaning of " **palatable**"?
   ① can be eaten
   ② good looking
   ③ pleasant tasting
   ④ popular with teenagers

2. In *sec 2*, which of the following best reflects the meaning of "**tween**"?
   ① a child aged 6-10
   ② a child aged 10-12
   ③ an adolescent
   ④ a young adult

3. According to *sec 4*, which of the following is true?
   ① Bupropion cravings are overwhelming.
   ② Bupropion is used to reduce the desire for heroin.
   ③ It is easier to quit nicotine than heroin.
   ④ Many teens are addicted to nicotine.

4. Which of the following best reflects the content of *sec 5*?
   ① E-cigarette flavors can cause lung irritation.
   ② People who vape have a nonsmoking status.
   ③ Using e-cigarettes is the best method to give up smoking.
   ④ Vaping might help people quit smoking cigarettes.

5. According to *sec 6* and *sec 7*, what is stated as the reason why it is difficult to treat patients with lung problems caused by vaping?
   ① Doctors can be affected by the patient's breath.
   ② Doctors often do not know what the patient vaped.
   ③ The patients are intubated.
   ④ The patients are unconscious.

6. In *sec 8*, which of the following best reflects the meaning of "**on the other hand**"?
   ① concisely
   ② consequently
   ③ conventionally
   ④ conversely

7. According to *sec 9*, which of the following is true?
   ① A report was written by family doctors to explain how vaping affects the brain.
   ② According to data in the report, nicotine improves concentration.
   ③ Cigarette use can lead to illegal drug use among young adults.
   ④ Surgeons generally recommend the use of illicit substances.

8. According to *sec 10*, which of the following is NOT listed as a warning sign of vaping?
   ① mood swings
   ② sleep irregularities
   ③ unusual devices
   ④ variety of fruits

9. In *sec 11*, which of the following best reflects the meaning of "**suspicion**"?
   ① complaint
   ② horror
   ③ mistrust
   ④ panic

10. Which of the following best reflects the content of *sec 13*?
    ① Quitting vaping is the individual's responsibility.
    ② The health of young people is everyone's responsibility.
    ③ Vaping should be banned.
    ④ Young people should switch to cigarettes.

PASSAGE II

Use the content from this interview transcript, separated into 5 sections *(sec 1 - sec 5)*, to answer the ***PASSAGE II QUESTIONS.***

INTERVIEW TRANSCRIPT: ANJU

Please note - This is a direct transcription of a real person speaking. It includes grammar and punctuation irregularities.

Anju works full time and teaches Indian cooking classes on the side. She is married with two sons.
Type of Cancer: Ovarian Cancer (Peritoneal Cancer)
Age at Diagnosis: 43
Year of Diagnosis: 2009
Treatment: Surgery and Chemotherapy
Date of Interview: January 2010

sec 1 My name is Anju Sarna and I'm 44 years old. I was diagnosed with ovarian[1] cancer last March. Despite having a complete prophylactic[2] surgery, a complete hysterectomy[3], I was diagnosed with this disease, and I was told that this is peritoneal cancer, which is treated exactly like ovarian cancer. I've been through a surgery last year and based on the surgery he suggested aggressive chemo[4] as soon as possible, so within two days of coming out of the hospital I was going for my first chemotherapy treatment to **Princess Margaret**.

sec 2 My mother was diagnosed with ovarian cancer when she was 38 and she passed away with ovarian cancer, and after her, two of her sisters were diagnosed in their 40s with the same ovarian cancer and they passed away with this disease as well. So, after my first child I was very [**A**] about the family history and I wanted to keep on top of my genes and take all **precautions** so that I don't experience or go through that disease. So from the very beginning, it's been in my mind that it's genetic and I have a strong family history.

sec 3 I needed the time to **grasp** what had happened because everything happens so quickly, from me going to the doctor for a physical, or just the fluid building up, to the surgery, to being diagnosed with ovarian cancer, to getting through chemo. It was just too much, too soon. In my case, I had no time to even accept the disease or to get the courage to fight it because it was just one thing after the other. So I took the time to just mentally accept the disease and tell myself that I'm strong and I can fight it, even though whatever happens, happened with my mother or the family history, I am not going to let that interfere with me fighting this disease and staying positive. I have a cousin who is fighting ovarian cancer in India and she's doing well for the last five years, and so that's what keeps me going. If she can do **it**, I can do it as well. Gives me hope.

sec 4 But every day I tell myself that I have to do a little bit extra, more, so that I am getting back to my normal life. I don't like to be sick. I don't like the feeling of being... depending on others, so I have to do this for myself. Just going back to work is probably the hardest decision one has to make because you have to be ready mentally as well as physically and the physical strength comes in due course of time. But the mental strength... you need to get yourself, your thoughts, together and just tell yourself that you've got to do one more step, which is going closer to your normal life again. I was working full time before. So just one day at a time, one little step at a time, get closer—it's a lot of healing that needs to happen inside emotionally as well as mentally because you may look OK, you have your hair, you have makeup on, you look like anybody who's walking outside, a healthy normal person, but you know inside you that you need to heal.

sec 5 I want to do everything that you want to experience, and I don't want fear to [**B**] because you don't want to try this, you don't want to try that. If my boys go skiing, I want to go skiing with them. I want to go for a walk every day, enjoy everything in the cold weather, which I never used to do. Just trying different things; and there's an endless list of things that I want to do in life, and this has made me just realize you... do it, don't wait for tomorrow, just do it and enjoy it.

Vocabulary

(1) ***ovarian****: related to the parts of a woman's body that produce eggs;*
(2) ***prophylactic****: related to preventing disease;*
(3) ***hysterectomy****: a surgical operation to remove the part of a woman's body where a baby grows;*
(4) ***chemo****: short for chemotherapy, a treatment for cancer*

Excerpt adapted from "Interview Transcript: Anju" (2011) by Canadian Partnership Against Cancer
https://www.partnershipagainstcancer.ca/topics/ovarian-family-history-anju/

PASSAGE II QUESTIONS

11. According to *sec 1*, which of the following is true about Anju's cancer?
    ① She got cancer even though she actively took measures to avoid it.
    ② She got cancer last year, and then she got cancer again in March.
    ③ She got cancer, and she was unable to do chemotherapy because of her surgery.
    ④ She got cancer, but surgery was able to remove it.

12. In *sec 1*, which of the following is **Princess Margaret** most likely to be?
    ① a city
    ② a doctor
    ③ a hospital
    ④ an island

13. In *sec 2*, which of the following is the best fit for [A]?
    ① conceited
    ② concerned
    ③ confused
    ④ curious

14. In *sec 2*, which of the following is closest in meaning to "**precautions**"?
    ① dangers
    ② medications
    ③ risks
    ④ safeguards

15. In *sec 3*, which of the following is closest in meaning to "**grasp**"?
    ① bring myself back from
    ② come to terms with
    ③ find an excuse for
    ④ pull myself together with

16. At the end of *sec 3*, what does "**it**" refer to?
    ① accept that she will die of cancer
    ② battle against cancer
    ③ surrender to cancer
    ④ take time to understand cancer

17. According to *sec 4*, which of the following best describes Anju's approach to recovery?
    ① Aim for gradual daily improvements.
    ② Keep faith in a higher power.
    ③ Looking your best is what matters.
    ④ Rely on the kindness of strangers.

18. According to *sec 4*, which of the following statements is true?
    ① Being dependent on others requires more mental strength.
    ② Mental strength comes after physical strength has diminished.
    ③ Outward appearances are as important as emotional healing.
    ④ Physical strength returns naturally with time.

19. In *sec 5*, which of the following is the best fit for [B]?
    ① hold back
    ② hold back me
    ③ hold back you
    ④ hold me back

20. According to *sec 5*, which of the following best describes Anju's thoughts about the future?
    ① She wants to be controlled by her fear.
    ② She wants to live life to the fullest.
    ③ She wants to make a list of things to do in life.
    ④ She wants to try skiing for the first time.

PASSAGE III

Use the content from this passage, separated into 14 sections *(sec 1 - sec 14)*, to answer the ***PASSAGE III QUESTIONS.***

sec 1 Everyone lies. Sometimes we do so with good intentions; for example, to avoid hurt feelings or circumvent an awkward situation. Other times, the **motive** for deception is not so pure.

sec 2 Regardless of why we choose to lie, scientists want to understand how the brain works when we stretch the truth. By analyzing the changes that take place in the brain when we deceive, scientists [A] more about the process of lying and, ultimately, how to detect it.

LYING IN THE LABORATORY

sec 3 Scientists believe that a lie is made up of two parts: a person must create the lie and also withhold the truth.

sec 4 To study deception in a laboratory setting, scientists create a variety of situations in which people are asked to lie. One popular test is **the 'mock theft' paradigm**, where each volunteer is told to take one of two items, such as a ring or watch, from a room and hide it in a locker. The volunteer is also instructed to deny having taken either item (a lie in one case and a truth in the other) during subsequent questioning.

sec 5 Before questioning begins, electrodes are placed on the participant's scalp. The electrodes measure electrical signals on the surface of the brain. Such signals can provide **clues** about how the brain performs during lying and truth-telling. However, because this technique measures the activity of large brain regions, it is not suited to identify the exact brain areas involved when telling a lie.

sec 6 Over the last decade, scientists have used functional magnetic resonance imaging (fMRI) to more accurately locate regions of the brain that change when a person lies. This technique measures changes in blood flow in the brain — a reflection of neural activity — as people answer questions while inside of a scanner. The resulting images **pinpoint** brain activity in specific regions during the lie and truth phases of the deception paradigms.

[B]

sec 7 Although several brain areas appear to play a role in deception, the most consistent finding across multiple fMRI studies is that activity in the prefrontal cortex increases when people lie. The prefrontal cortex, situated just behind the forehead, is a collection of regions responsible for executive control (the ability to regulate thoughts or actions to achieve goals). Executive control includes cognitive processes such as planning, problem solving, and attention — all important components of deception — so it's no surprise the prefrontal cortex is active when we lie. Dishonesty requires the brain to work harder than honesty, and this effort is reflected by increased brain activity. Studies even show people take longer to respond when lying.

sec 8 While lies lead to greater activity in the prefrontal cortex, so do many everyday tasks, such as cooking dinner or playing a game of chess, explains Josh Greene, who studies moral judgment and decision-making at Harvard University. "It's not like there's some 'lying' part of the brain" that is only involved in deception, he says.

sec 9 Most neuroimaging studies of deception have examined this behavior in healthy people, so information about how the brains of people who lie compulsively differ from healthy people remains largely unknown.

fMRI FOR LIE DETECTION?

sec 10 Even without a clear 'lying' region, researchers can use fMRI to detect when a study participant is telling a lie in the laboratory with about 85 percent accuracy (polygraph tests, which measure changes in blood pressure, skin conductivity, and respiration during questioning, produce similar accuracy in the laboratory setting). Even with such a high rate of accuracy, however, use of fMRI and polygraph tests to identify deceit outside of the laboratory is controversial.

sec 11 Two U.S. companies market fMRI lie detection commercially and a few court cases around the world have considered using it as evidence. But both have received much opposition from the neuroscience community.

sec 12 How closely do laboratory paradigms model real-world lies? Not very closely, says Stanford University's Anthony Wagner, who studies memory and has testified in court against the validity of fMRI lie detection. As Wagner explains, laboratory studies involve instruction to tell a low-stakes lie about an action they recently performed. However, in the real world, lies are self-generated, often high risk and emotionally charged, and lie detection may occur years after the event in question.

sec 13 Another issue that has not been adequately studied, Wagner says, is how countermeasures, such as small movements, changes in breathing, or altered cognitive processing, can affect the accuracy of fMRI lie detection. By using countermeasures, a person may be able to deliberately offset any brain changes associated with deception to defeat lie detection technology. A recent study found the accuracy of fMRI for lie detection dropped to a mere 33 percent when participants used countermeasures during questioning.

sec 14 As neuroscientists like Wagner and University of Plymouth professor Giorgio Ganis see it, right now there isn't enough evidence to support the use of fMRI for lie detection. "Any application of this technique in the real world is premature," says Ganis, who studies deception using brain imaging. However, with more sophisticated analysis and technology development, he concedes there may one day be a future for accurately detecting deception.

Excerpt adapted from "The Truth About Lies: The Science of Deception" (2013) by Allison Curley
https://www.brainfacts.org/archives/2013/the-truth-about-lies-the-science-of-deception

PASSAGE III QUESTIONS

21. In *sec 1*, which of the following is closest in meaning to "**motive**"?
① contingent
② intention
③ propulsion
④ verification

22. In *sec 2*, which of the following is the best fit for [A]?
① hope learning
② hope to learn
③ hopefully to learn
④ to hopefully learn

23. In *sec 4*, which of the following best describes "**the 'mock theft' paradigm**"?
① an experiment designed to create a situation in which a participant is required to tell a lie
② an experiment in which the subject can choose between telling the truth or lying
③ an experiment in which the subject is required to steal something
④ an experiment in which the subject is only allowed to lie

24. In *sec 5*, which of the following is closest in meaning to "**clues**"?
① alibis
② indications
③ innovations
④ suspicions

25. In *sec 6*, which of the following is closest in meaning to "**pinpoint**"?
① to classify into parts or components
② to emphasize or make prominent
③ to locate precisely or exactly
④ to amplify or magnify

26. What is the most appropriate title, [B], for *sec 7* to *sec 9*?
① AREAS OF AUTHENTICITY
② REGIONS OF DECEIT
③ TERRITORIES OF TRUTHFULNESS
④ ZONES OF AMBIGUITY

27. In *sec 7*, which of the following cognitive processes is NOT regulated by the prefrontal cortex?
① balancing
② concentrating
③ finding solutions
④ strategizing

28. In *sec 8*, which of the following best reflects the point expressed by Josh Greene?
① Activity in the prefrontal cortex is an accurate indication of dishonesty.
② Activity in the prefrontal cortex is unambiguously linked to deception.
③ Prefrontal cortex activity also occurs during the performance of tasks other than lying.
④ Prefrontal cortex activity rarely occurs during the performance of tasks other than lying.

29. In *sec 12*, which of the following best summarizes the distinction that Anthony Wagner makes between simulated lies and genuine attempts to deceive?
① Genuine attempts to deceive have greater consequences and have more variables.
② Genuine attempts to deceive require more preparation and planning.
③ Simulated lies are easier to detect because they are more realistic.
④ Simulated lies are more difficult to detect because counter-measures can be used.

30. In *sec 14*, which of the following best summarizes the opinion stated by Professor Giorgio Ganis?
① Accurate lie detectors will one day be a reality.
② Lie detection techniques are useful, but will never be completely accurate.
③ Reliable lie detection techniques are still far from reality.
④ The technology needed for lie detection is getting much better every year.