II. READING (25 points)
Read the passage below and answer the questions that follow it.

"……."

By AZIM SHARIFF, IYAD RAHWAN and JEAN-FRANÇOIS BONNEFON
***The New York Times*, November 3, 2016**

(1) Everyone seems to agree: the latest transportation revolution is just around the corner. Leading automakers from Volvo to **Toyota, Ford, and Hyundai** are investing countless millions in new GPS technology, radar scanning, high definition cameras, and other advanced computer technology to bring new driverless cars to market. Already, tech giant Google has chalked up over 700,000 miles in its own driverless car, and Audi's new A7 traveled almost 1,000 driverless miles from San Francisco to Las Vegas for CES 2016, the world's largest annual tech show. The **consensus** is that autonomous automobiles will largely dominate the roads by as early as 2025, and if Uber has its way, that day will come even sooner. In Pittsburgh in the United States, **the ride provider** began offering self-driving taxi services in September this year.

(2) It is also generally agreed that the widespread use of self-driving cars will bring substantial benefits to transportation efficiency, public safety and personal well-being. The U.S. Department of Transportation estimates that traffic fatalities—most of which are the result of human error—could be reduced by as much as 90–95%, and investment firm Morgan Stanley **projects** that autonomous cars could save the U.S. $170 billion in lower fuel costs and cut greenhouse gas emissions by 75%. _____, our research shows that there is still an important ethical dilemma that must be solved before people will be comfortable embracing the benefits that **this revolution** promises to bring.

(3) As the National Highway Traffic Safety Administration has noted, autonomous cars may find themselves in circumstances in which the car must choose between risks to its passengers and risks to a potentially greater number of pedestrians. Imagine a situation in which the car must either run off the road or plow through a large crowd of people: Whose risk should the car's internal computer aim to minimize?

(4) This dilemma was explored in a series of studies that we recently published in the journal *Science*. We presented people with hypothetical situations that forced them to choose between "self-protective" autonomous cars that protected their passengers at all costs, and "utilitarian" autonomous cars that impartially minimized overall casualties, even if it meant harming their passengers. A large majority of our respondents agreed that **the latter** were more ethical, and were the type they would like to see on the road. But most people also indicated that they would refuse to purchase such a car, expressing a strong preference for buying the self-protective one. _____, people refused to buy the car they found to be more ethical.

(5) This is a version of the classic "tragedy of the commons": People acting in their self-interest behave contrary to the actions that everyone knows are necessary for the common good. One solution to such dilemmas is for the government to enforce regulations. But our research suggests that when it comes to self-driving cars, Americans **balk at** having the government force cars to use potentially self-sacrificial computer algorithms.

(6) Car manufacturers, for their part, have generally remained silent on the matter. That changed last month when an official at Mercedes-Benz indicated that in those situations where its future autonomous cars would have to choose between risks to their passengers and risks to pedestrians, the computer would prioritize passenger safety. But **the company reversed course** soon after, saying that this would not be its policy.

(7) Mercedes was confronting the same dilemma suggested by our research. **Carmakers can either alienate the public by offering cars that behave in a way that is perceived as unethical, or alienate buyers by offering cars that behave in a way that scares them away**. In the face of this, most car companies have found that their best course of action is to **sidestep** the question: Ethical dilemmas on the road are exceedingly rare, the argument goes, and companies should focus on eliminating rather than solving them.

(8) **That** is an admirable goal, but the widespread adoption of driverless cars will happen only when people are comfortable with carmakers' solutions to these ethical dilemmas, however seldom they arise. In Florida last June, the first fatal accident in a driverless car drew considerable media attention, and the victim was a passenger; imagine the level of public interest in the first driverless car accident that harms someone not in the car.

(9) This is why, despite its mixed messages, Mercedes-Benz should be applauded for speaking out on the subject. The company acknowledges that to "clarify these issues of law and ethics in the long term will require broad international discussion." Bill Ford Jr., the executive chairman of the Ford Motor Company, recently called on the auto industry to engage in "deep and meaningful conversations" with the public on the subject. To promote such a discussion, we have created an online platform, which we call **the Moral Machine**. It allows people all over the world to share their opinions about what algorithmic decisions they see as most ethical.

(10) The sooner driverless cars are adopted, the more lives will be saved. But taking seriously the psychological as well as technological challenges of autonomous vehicles will be necessary in order to free us from the tedious, wasteful and dangerous system of driving that we have put up with for more than a century.

Questions

1. (1) The best title for the article is…
   a) "Driverless Cars: A Safer, More Efficient Future?"
   b) "New Technology Revolutionizes the Auto Industry"
   c) "Whose Life Should Your Driverless Car Save?"
   d) "Companies Compete to Introduce Driverless Cars"

2. (1) The main purpose of the article is…
   a) to persuade American consumers to buy new driverless cars.
   b) to report on revolutionary developments in transportation technology.
   c) to present the pros and cons of adopting driverless cars in the U.S.
   d) to discuss research on an important issue concerning driverless cars.

3. (1) An "ethical dilemma" is…
   a) a complex technical problem.
   b) a difficult moral choice.
   c) an important legal question.

d) a psychological disorder.

4. (2) Find **<u>two</u>** other words in the article with the same meaning as "driverless."

5. (1) In paragraph 1, what are *Toyota, Ford and Hyundai* examples of?

6. (1) Why are driverless cars expected to reduce the number of people killed in traffic accidents?

7. (1) One environmental advantage of driverless cars is….

8. (1) The best word to complete the blank in paragraph 3 is _____.

9. (1) The best completion for the blank in paragraph 4 is…
   a) Nevertheless
   b) In addition
   c) In other words
   d) On the contrary

10. (½) **Balk at** in paragraph 5 is closest in meaning to…
    a) approve of
    b) object to
    c) ask for
    d) respond to

11. (1) What do the authors mean whey they write "*the company reversed course*" in ¶6?

12. (1) The sentence "*Carmakers can either alienate the public by offering cars that behave in a way that is perceived as unethical, or alienate buyers by offering cars that behave in a way that scares them away*" in paragraph 7 explains why…

    a) it should be the responsibility of the US government to issue regulations.
    b) companies like Toyota have not discussed the ethical dilemma facing driverless cars.
    c) more research on the economic and environmental benefits of driverless cars should be conducted.
    d) driverless cars will replace the kinds of vehicles we drive today within the next two decades.

13. (1) In paragraph 8, why do the authors mention the fatal crash in Florida?

    a) To show that driving in Florida is more dangerous than in other states.
    b) To emphasize that the accident provoked widespread discussion.

c) To warn that driverless cars will be involved in other serious crashes.
d) To suggest that Americans lack confidence in the safety of driverless cars.

14. (1) In your own words, why did the authors create *The Moral Machine*?

15. (1) The sentence: "*So far, more than two million people from more than 150 countries have participated*" could be added to the end of paragraph _____.

16. (6 points) According to the authors of the article, are these statements **TRUE (T), FALSE (F),** or is the answer **NOT GIVEN (NG**)? For the statements that are **TRUE** or **FALSE**, find a sentence in the article that explains your answer.

a) _____ In the next ten years driverless cars will be a common sight on our roads.
   Evidence:
b) _____ Driverless cars will be more expensive for companies to manufacture.
   Evidence:
c) _____ Mercedes-Benz was wrong to discuss the kind of driverless cars they will produce.
   Evidence:
d) _____Most car companies will choose to produce "self-protective" cars.
   Evidence:
e) _____People tend to be more concerned about their own safety than the safety of others.
   Evidence:
f) _____ Most American consumers would be happy to buy a "utilitarian" driverless car.
   Evidence:

17. (1½) Using context clues, provide a meaning for these words. Remember to use the same part of speech.

a) consensus (¶1)
b) projects (¶2)
c) sidestep (¶7)

18. (2) What do the following refer to?

a) the ride provider (¶1)
b) the revolution (¶2)
c) latter (¶4)
d) That (¶8)