

Section Three: Reading Comprehension

Questions 1-9

In 1903 the members of the governing board of the University of Washington, in Seattle, engaged a firm of landscape architects, specialists in the design of outdoor environments--Olmsted Brothers of Brookline, Massachusetts--to advise them on an appropriate layout for the university grounds. The plan impressed the university officials,

- (5) and in time many of its recommendations were implemented. City officials in Seattle, the largest city in the northwestern United States, were also impressed, for they employed the same organization to study Seattle's public park needs. John Olmsted did the investigation and subsequent report on Seattle's parks. He and his brothers believed that parks should be adapted to the local topography, utilize the area's trees and shrubs, and be available to the entire community. They especially emphasized the need for natural, serene settings where hurried urban dwellers could periodically escape from the city. The essence of the Olmsted park plan was to develop a continuous driveway, twenty miles long, that would tie together a whole series of parks, playgrounds, and parkways. There would be local parks and squares, too, but all of this was meant to supplement the major driveway, which was to remain the unifying factor for the entire system.

- In November of 1903 the city council of Seattle adopted the Olmsted Report, and it automatically became the master plan for the city's park system. Prior to this report, Seattle's park development was very limited and funding meager. All this changed after the report. Between 1907 and 1913, city voters approved special funding measures amounting to \$4,000,000. With such unparalleled sums at their disposal, with the Olmsted guidelines to follow, and with the added incentive of wanting to have the city at its best for the Alaska-Yukon-Pacific Exposition of 1909, the Parks Board bought aggressively. By 1913 Seattle had 25 parks amounting to 1,400 acres, as well as 400 acres in playgrounds, pathways, boulevards, and triangles. More lands would be added in the future, but for all practical purposes it was the great land surge of 1907-1913 that established Seattle's park system.

1. What does the passage mainly discuss?

- (A) The planned development of Seattle's public park system
- (B) The organization of the Seattle city government
- (C) The history of the Olmsted Brothers architectural firm
- (D) The design and building of the University of Washington campus

2. The word "engaged" in line 2 is closest in meaning to

- (A) trained
- (B) hired
- (C) described
- (D) evaluated

3. The word "subsequent" in line 8 is closest in meaning to

- (A) complicated
- (B) alternate
- (C) later
- (D) detailed

number of visitors from the community.

- (D) They should be designed to conform to the topography of the area.

5. Why does the author mention "local parks and squares" in lines 13-14 when talking about the Olmsted plan?

- (A) To emphasize the difficulties facing adoption of the plan
- (B) To illustrate the comprehensive nature of the plan
- (C) To demonstrate an omission in the plan
- (D) To describe Seattle's landscape prior to implementation of the plan

6. Which of the following can be inferred from the passage about how citizens of Seattle received the Olmsted Report?

- (A) They were hostile to the report's conclusions.
- (B) They ignored the Olmsteds' findings.
- (C) They supported the Olmsteds' plans.
- (D) They favored the city council's seeking advice from another firm.

4. Which of the following statements about parks does NOT reflect the views of the Olmsted Brothers firm?
- (A) They should be planted with trees that grow locally.
- (B) They should provide a quiet, restful environment.
- (C) They should be protected by limiting the

8. The word "sums" in line 20 is closest in meaning to
- (A) problems
- (B) amounts
- (C) services
- (D) debts

7. According to the passage, when was the Olmsted Report officially accepted as the master plan for the Seattle public park system?
- (A) 1903
- (B) 1907
- (C) 1909
- (D) 1913

9. According to the passage, which of the following was most directly influenced by the Alaska-Yukon-Pacific Exposition?
- (A) The University of Washington
- (B) Brookline, Massachusetts
- (C) The mayor of Seattle
- (D) The Seattle Parks Board

Questions 10-19

No two comets ever look identical, but they have basic features in common, one of the most obvious of which is a coma. A coma looks like a misty, patch of light with one or more tails often streaming from it in the direction away from the Sun.

Line At the heart of a comet's coma lies a nucleus of solid material, typically no more than

- (5) 10 kilometers across. The visible coma is a huge cloud of gas and dust that has escaped from the nucleus, which it then surrounds like an extended atmosphere. The coma can extend as far as a million kilometers outward from the nucleus. Around the coma there is often an even larger invisible envelope of hydrogen gas.
- The most graphic proof that the grand spectacle of a comet develops from a relatively
- (10) small and inconspicuous chunk of ice and dust was the close-up image obtained in 1986 by the European Giotto probe of the nucleus of Halley's Comet. It turned out to be a bit like a very dark asteroid, measuring 16 by 8 kilometers. Ices have evaporated from its outer layers to leave a crust of nearly black dust all over the surface. Bright jets of gas from evaporating ice burst out on the side facing the Sun, where the surface gets heated up, carrying dust
- (15) with them. This is how the coma and the tails are created.
- Comets grow tails only when they get warm enough for ice and dust to boil off. As a comet's orbit brings it closer to the Sun, first the coma grows, then two distinct tails usually form. One, the less common kind, contains electrically charged (i.e., ionized) atoms of gas, which are blown off directly in the direction away from the Sun by the magnetic field of
- (20) the solar wind. The other tail is made of neutral dust particles, which get gently pushed back by the pressure of the sunlight itself. Unlike the ion tail, which is straight, the dust tail becomes curved as the particles follow their own orbits around the Sun.

10. The passage focuses on comets primarily in terms of their:

- (A) orbital patterns
- (B) coma and tails
- (C) brightness
- (D) size

11. The word "identical" in line 1 is closest in meaning to

- (A) equally fast
- (B) exactly alike
- (C) near each other
- (D) invisible

12. The word "heart" in line 4 is closest in meaning to

- (A) center
- (B) edge
- (C) tail
- (D) beginning

13. Why does the author mention the Giotto probe in paragraph 3?

- (A) It had a relatively small and inconspicuous nucleus.
- (B) It was very similar to an asteroid.
- (C) It was covered with an unusual black dust.
- (D) It provided visual evidence of the makeup of a comet's nucleus.

14. It can be inferred from the passage that the nucleus of a comet is made up of

- (A) dust and gas
- (B) ice and dust
- (C) hydrogen gas
- (D) electrically charged atoms

15. The word "graphic" in line 9 is closest in meaning to

- (A) mathematical

- (B) popular
- (C) unusual
- (D) vivid

16. Which of the following occurred as the ices from Halley's Comet evaporated?

- (A) Black dust was left on the comet's surface.
- (B) The nucleus of the comet expanded.
- (C) The tail of the comet straightened out.
- (D) Jets of gas caused the comet to increase its speed.

17. All of the following statements about the tails of comets are true EXCEPT:

- (A) They can contain electrically charged or neutral particles.
- (B) They can be formed only when there is sufficient heat.

- (C) They are formed before the coma expands.
- (D) They always point in the direction away from the Sun.

18. The word "distinct" in line 17 is closest in meaning to

- (A) visible
- (B) gaseous
- (C) separate
- (D) new

19. Compared to the tail of electrically charged atoms, the tail of neutral dust particles is relatively

- (A) long
- (B) curved
- (C) unpredictable
- (D) bright

Astronomer's Magazine

Questions 20-29

- Many prehistoric people subsisted as hunters and gatherers. Undoubtedly, game animals, including some very large species, provided major components of human diets. An important controversy centering on the question of human effects on prehistoric wildlife Line concerns the sudden disappearance of so many species of large animals at or near the end (5) of the Pleistocene epoch. Most paleontologists suspect that abrupt changes in climate led to the mass extinctions. Others, however, have concluded that prehistoric people drove many of those species to extinction through overhunting. In their "Pleistocene overkill hypothesis," they cite what seems to be a remarkable coincidence between the arrival of prehistoric peoples in North and South America and the time during which mammoths, (10) giant ground sloths, the giant bison, and numerous other large mammals became extinct. Perhaps the human species was driving others to extinction long before the dawn of history. Hunter-gatherers may have contributed to Pleistocene extinctions in more indirect ways. Besides overhunting, at least three other kinds of effects have been suggested: direct competition, imbalances between competing species of game animals, and early (15) agricultural practices. Direct competition may have brought about the demise of large carnivores such as the saber-toothed cats. These animals simply may have been unable to compete with the increasingly sophisticated hunting skills of Pleistocene people. Human hunters could have caused imbalances among game animals, leading to the extinctions of species less able to compete. When other predators such as the gray wolf (20) prey upon large mammals, they generally take high proportions of each year's crop of young. Some human hunters, in contrast, tend to take the various age-groups of large animals in proportion to their actual occurrence. If such hunters first competed with the larger predators and then replaced them, they may have allowed more young to survive each year, gradually increasing the populations of favored species as these populations expanded, (25) they in turn may have competed with other game species for the same environmental niche, forcing the less hunted species into extinction. This theory, suggests that human hunters played an indirect role in Pleistocene extinctions by hunting one species more than another.

20. What does the passage mainly discuss?

- (A) The effects of human activities on prehistoric wildlife
- (B) The origins of the hunter-gatherer way of life

(C) The diets of large animals of the Pleistocene epoch

(D) The change in climate at the end of the Pleistocene epoch

21. The word "Undoubtedly" in line 1 is closest in meaning to

- (A) occasionally
- (B) unexpectedly
- (C) previously
- (D) certainly

22. The word "components" in line 2 is closest in meaning to

- (A) parts
- (B) problems
- (C) changes
- (D) varieties

23. Which of the following is mentioned as supporting the Pleistocene overkill hypothesis?

- (A) Many of the animals that became extinct were quite large.
- (B) Humans migrated into certain regions around the time that major extinctions occurred.
- (C) There is evidence that new species were arriving in areas inhabited by humans.
- (D) Humans began to keep and care for certain animals.

24. The word "Besides" in line 13 is closest in meaning to

- (A) caused by
- (B) whereas
- (C) in addition to
- (D) in favor of

25. The author mentions saber-toothed cats in line 16 as an example of a carnivore that

- (A) became extinct before the Pleistocene epoch

- (B) was unusually large for its time
- (C) was not able to compete with humans
- (D) caused the extinction of several species

26. The word "they" in line 20 refers to

- (A) human hunters
- (B) game animals
- (C) other predators
- (D) large mammals

27. According to the passage, what is one difference between the hunting done by some humans and the hunting done by gray wolves?

- (A) Some humans hunt more frequently than gray wolves.
- (B) Gray wolves hunt in larger groups than some humans.
- (C) Some humans can hunt larger animals than gray wolves can hunt.
- (D) Some humans prey on animals of all ages, but gray wolves concentrate their efforts on young animals.

28. The word "favored" in line 24 is closest in meaning to

- (A) large
- (B) escaping
- (C) preferred
- (D) local

29. According to the passage, the imbalances discussed in paragraph 3 may have resulted from

- (A) the effect of climate changes on large game animals
- (B) large animals moving into a new environment
- (C) humans hunting some species more than others
- (D) older animals not being able to compete with younger animals

Questions 30-39

Tulips are Old World, rather than New World, plants, with the origins of the species lying in Central Asia. They became an integral part of the gardens of the Ottoman Empire from the sixteenth century onward, and, soon after, part of European life as well. Holland, Line in particular, became famous for its cultivation of the flower.

- (5) A tenuous line marked the advance of the tulip to the New World, where it was unknown in the wild. The first Dutch colonies in North America had been established in New Netherland by the Dutch West India Company in 1624, and one individual who settled in New Amsterdam (today's Manhattan section of New York City) in 1642 described the flowers that bravely colonized the settlers' gardens. They were the same
- (10) flowers seen in Dutch still-life paintings of the time: crown imperials, roses, carnations, and of course tulips. They flourished in Pennsylvania too, where in 1698 William Penn

received a report of John Tateham's "Great and Stately Palace," its garden full of tulips. By 1760, Boston newspapers were advertising 50 different kinds of mixed tulip "roots." But the length of the journey between Europe and North America created many

- (15) difficulties. Thomas Hancock, an English settler, wrote thanking his plant supplier for a gift of some tulip bulbs from England, but his letter the following year grumbled that they were all dead.

Tulips arrived in Holland, Michigan, with a later wave of early nineteenth-century

- Dutch immigrants who quickly colonized the plains of Michigan. Together with many
(20) other Dutch settlements, such as the one at Pella, Iowa, they established a regular demand for European plants. The demand was bravely met by a new kind of tulip entrepreneur, the traveling salesperson. One Dutchman, Hendrick van der Schoot, spent six months in 1849 traveling through the United States taking orders for tulip bulbs. While tulip bulbs were traveling from Europe to the United States to satisfy the nostalgic longings of homesick
(25) English and Dutch settlers, North American plants were traveling in the opposite direction. In England, the enthusiasm for American plants was one reason why tulips dropped out of fashion in the gardens of the rich and famous.

30. Which of the following questions does the passage mainly answer?

- (A) What is the difference between an Old World and a New World plant?
- (B) Why are tulips grown in many different parts of the world?
- (C) How did tulips become popular in North America?
- (D) Where were the first Dutch colonies in North America located?

31. The word "integral" in line 2 is closest in meaning to

- (A) interesting
- (B) fundamental
- (C) ornamental
- (D) overlooked

32. The passage mentions that tulips were first found in which of the following regions?

- (A) Central Asia
- (B) Western Europe
- (C) India
- (D) North America

33. The word "flourished" in line 11 is closest in meaning to

- (A) were discovered
- (B) were marketed
- (C) combined
- (D) thrived

34. The author mentions tulip growing in New Netherland, Pennsylvania, and Michigan in order to illustrate how
(A) imported tulips were considered more

valuable than locally grown tulips

- (B) tulips were commonly passed as gifts from one family to another
- (C) tulips grew progressively more popular in North America
- (D) attitudes toward tulips varied from one location to another

35. The word "grumbled" in line 16 is closest in meaning to

- (A) denied
- (B) warned
- (C) complained
- (D) explained

36. The passage mentions that one reason English and Dutch settlers planted tulips in their gardens was that tulips

- (A) were easy to grow
- (B) had become readily available
- (C) made them appear fashionable
- (D) reminded them of home

37. The word "they" in line 20 refers to

- (A) tulips
- (B) plains
- (C) immigrants
- (D) plants

38. According to the passage, which of the following changes occurred in English gardens during the European settlement of North America?

- (A) They grew in size in order to provide enough plants to export to the New World.
- (B) They contained a wider variety of tulips than

ever before.

(C) They contained many new types of North American plants.

(D) They decreased in size on the estates of wealthy people.

39. The passage mentions which of the following as a problem associated with the

importation of tulips into North America?

(A) They were no longer fashionable by the time they arrived.

(B) They often failed to survive the journey.

(C) Orders often took six months or longer to fill.

(D) Settlers knew little about how to cultivate them.

Questions 40-50

Pheromones are substances that serve as chemical signals between members of the same species. They are secreted to the outside of the body and cause other individuals of the species to have specific reactions. Pheromones, which are sometimes called Line "social hormones," affect a group of individuals somewhat like hormones do an individual

(5) animal. Pheromones are the predominant medium of communication among insects

(but rarely the sole method). Some species have simple pheromone systems and produce only a few pheromones, but others produce many with various functions. Pheromone systems are the most complex in some of the so-called social insects, insects that live in organized groups.

(10) Chemical communication differs from that by sight or sound in several ways.

Transmission is relatively slow (the chemical signals are usually airborne), but the signal can be persistent, depending upon the volatility of the chemical, and is sometimes effective over a very long range. Localization of the signal is generally poorer than localization of a sound or visual stimulus and is usually effected by the animal's moving

(15) upwind in response to the stimulus. The ability to modulate a chemical signal is limited, compared with communication by visual or acoustic means, but some pheromones may convey different meanings and consequently result in different behavioral or physiological responses, depending on their concentration or when presented in combination. The modulation of chemical signals occurs via the elaboration of the number of exocrine

(20) glands that produce pheromones. Some species, such as ants, seem to be very articulate creatures, but their medium of communication is difficult for humans to study and appreciate because of our own olfactory insensitivity and the technological difficulties in detecting and analyzing these pheromones.

Pheromones play numerous roles in the activities of insects. They may act as alarm

(25) substances, play a role in individual and group recognition, serve as attractants between sexes, mediate the formation of aggregations, identify foraging trails, and be involved in caste determination. For example, pheromones involved in caste determination include the "queen substance" produced by queen honey bees. Aphids, which are particularly vulnerable to predators because of their gregarious habits and sedentary nature, secrete an alarm pheromone when attacked that causes nearby aphids to respond by moving away.

40. What does the passage mainly discuss?

(A) How insects use pheromones to communicate

(B) How pheromones are produced by insects

(C) Why analyzing insect pheromones is difficult

(D) The different uses of pheromones among various insect species

41. The word "serve" in line 1 is closest in meaning to

(A) improve

(B) function

(C) begin

(D) rely

42. The purpose of the second mention of "hormones" in line 4 is to point out

(A) chemical signals that are common among insects

(B) specific responses of various species to chemical signals

(C) similarities between two chemical substances

(D) how insects produce different chemical substances

43. The word "sole" in line 6 is closest in meaning to
(A) obvious
(B) best
(C) only
(D) final
44. The passage suggests that the speed at which communication through Pheromones occurs is dependent on how quickly they
(A) lose their effectiveness
(B) evaporate in the air
(C) travel through the air
(D) are produced by the body
45. According to the passage, the meaning of a message communicated through a pheromone may vary when the
(A) chemical structure of the pheromone is changed
(B) pheromone is excreted while other pheromones are also being excreted
(C) exocrine glands do not produce the pheromone
(D) pheromone is released near certain specific organisms
46. The word "detecting" in line 23 is closest in meaning to
(A) controlling
(B) storing
(C) questioning
(D) finding
47. According to paragraph 2, which of the following has made the study of pheromones difficult?
(A) Pheromones cannot be easily reproduced in chemical laboratories.
(B) Existing technology cannot fully explore the properties of pheromones.
(C) Pheromones are highly volatile.
(D) Pheromone signals are constantly changing.
48. The word "They" in line 24 refers to
(A) pheromones
(B) roles
(C) activities
(D) insects
49. The word "sedentary" in line 29 is closest in meaning to
(A) inactive
(B) inefficient
(C) unchangeable
(D) unbalanced
50. Pheromone systems are relatively complex in insects that
(A) also communicate using sight and sound
(B) live underground
(C) prey on other insects
(D) live in organized groups