3 Reading Comprehension

Time: 55 minutes

This section of the test measures your ability to comprehend written materials.

Directions: This section contains several passages, each followed by a number of questions. Read the passages and, for each question, choose the *one* best answer—(A), (B), (C), or (D)—based on what is stated in the passage or on what can be inferred from the passage. Then fill in the space on your answer sheet that matches the letter of the answer that you have selected.

▼ **Read the following passage:**

Like mammals, birds claim their own territories. A bird's territory may be small or large. Some birds claim only their nest and the area right around it, while others claim far larger territories that include their feeding areas. Gulls, penguins, and other waterfowl nest in huge colonies, but even in the biggest colonies, each male and his mate have small territories of their own immediately around their nests.

Male birds defend their territory chiefly against other males of the same species. In some cases, a warning call or threatening pose may be all the defense needed, but in other cases, intruders may refuse to leave peacefully.

Example I

Sample Answer



What is the main topic of this passage?

(A) Birds that live in colonies
(B) Birds' mating habits
(C) The behavior of birds
(D) Territoriality in birds

The passage mainly concerns the territories of birds. You should fill in (D) on your answer sheet.

Example II

Sample Answer



According to the passage, male birds defend their territory primarily against

(A) female birds
(B) birds of other species
(C) males of their own species
(D) mammals

The passage states that "Male birds defend their territory chiefly against other males of the same species." You should fill in (C) on your answer sheet.

As soon as you understand the directions, begin work on this section.

Questions 1–11

The Sun today is a yellow dwarf star. It is fueled by thermonuclear reactions near its center that convert hydrogen to helium. The Sun has existed in its present state for about 4 billion, 600 million years and is thousands of times larger than the Earth.

By studying other stars, astronomers can predict what the rest of the Sun's life will be like. About 5 billion years from now, the core of the Sun will shrink and become hotter. The surface temperature will fall. The higher temperature of the center will increase the rate of thermonuclear reactions. The outer regions of the Sun will expand approximately 35 million miles, about the distance to Mercury, which is the closest planet to the Sun. The Sun will then be a red giant star. Temperatures on the Earth will become too hot for life to exist.

Once the Sun has used up its thermonuclear energy as a red giant, it will begin to shrink. After it shrinks to the size of the Earth, it will become a white dwarf star. The Sun may throw off huge amounts of gases in violent eruptions called nova explosions as it changes from a red giant to a white dwarf.

After billions of years as a white dwarf, the Sun will have used up all its fuel and will have lost its heat. Such a star is called a black dwarf. After the Sun has become a black dwarf, the Earth will be dark and cold. If any atmosphere remains there, it will have frozen onto the Earth's surface.

LIVEWORKSHEETS

1. What is the primary purpose of this passage?
   (A) To alert people to the dangers posed by the Sun
   (B) To discuss conditions on Earth in the far future
   (C) To present a theory about red giant stars
   (D) To describe changes that the Sun will go through

2. The word "fueled" in line 1 is closest in meaning to
   (A) powered
   (B) bombarded
   (C) created
   (D) propelled

3. The word "state" in line 3 is closest in meaning to
   (A) shape
   (B) condition
   (C) location
   (D) size

4. It can be inferred from the passage that the Sun
   (A) is approximately halfway through its life as a yellow dwarf
   (B) has been in existence for 10 billion years
   (C) is rapidly changing in size and brightness
   (D) will continue as a yellow dwarf for another 10 billion years

5. What will probably be the first stage of change as the Sun becomes a red giant?
   (A) Its core will cool off and use less fuel.
   (B) Its surface will become hotter and shrink.
   (C) It will throw off huge amounts of gases.
   (D) Its center will grow smaller and hotter.

6. When the Sun becomes a red giant, what will conditions be like on Earth?
   (A) Its atmosphere will freeze and become solid.
   (B) It will be enveloped in the expanding surface of the Sun.
   (C) It will become too hot for life to exist.
   (D) It will be nearly destroyed by nova explosions.

7. As a white dwarf, the Sun will be
   (A) the same size as the planet Mercury
   (B) thousands of times smaller than it is today
   (C) around 35 million miles in diameter
   (D) cold and dark

8. According to the passage, which of the following best describes the sequence of stages that the Sun will probably pass through?
   (A) Yellow dwarf, white dwarf, red giant, black giant
   (B) Red giant, white dwarf, red dwarf, nova explosion
   (C) Yellow dwarf, red giant, white dwarf, black dwarf
   (D) White dwarf, red giant, black dwarf, yellow dwarf

9. The phrase "throw off" in line 17 is closest in meaning to
   (A) eject
   (B) burn up
   (C) convert
   (D) let in

10. The word "there" in line 23 refers to
    (A) our own planet
    (B) the outer surface of the Sun
    (C) the core of a black dwarf
    (D) the planet Mercury

11. Which of the following best describes the tone of the passage?
    (A) Alarmed
    (B) Pessimistic
    (C) Comic
    (D) Objective

Questions 12–23

It is said that George Washington was one of the first to realize how important the building of canals would be to the nation's development. In fact, before he became President, he headed the first company in the United States to build a canal which was to connect the Ohio and Potomac rivers. It was never completed, but it showed the nation the feasibility of canals. As the country expanded westward, settlers in western New York, Pennsylvania, and Ohio needed a means to ship goods. Canals linking natural waterways seemed to offer an effective solution.

LIVEWORKSHEETS

(10) In 1791 engineers commissioned by the state of New York investigated the possibility of a canal between Albany on the Hudson River and Buffalo on Lake Erie, which would link the Great Lakes area with the Atlantic seacoast. It would avoid the mountains that served as a barrier to canals from the Delaware (15) and Potomac rivers.

The first attempt to dig the canal, to be called the Erie Canal, was made by private companies, but only a comparatively small portion was built before the project was halted for lack of funds. The cost of the project was an estimated five million dollars, an (20) enormous amount for those days. There was some on-again-off-again Federal funding, but the War of 1812 put an end to this. In 1817 DeWitt Clinton was elected Governor of New York and persuaded the state to finance and build the canal. It was completed in 1825, costing two million dollars more than expected.

(25) The canal rapidly lived up to its sponsors' faith, quickly paying for itself through tolls. It was far more economical than any other form of transportation at the time. It permitted trade between the Great Lake region and East Coast, robbing the Mississippi River of much of its traffic. It allowed New York to supplant Boston, (30) Philadelphia, and other Eastern cities as the chief center of both domestic and foreign commerce. Cities sprang up along the canal. It also contributed in a number of ways to the North's victory over the South in the Civil War.

An expansion of the canal was planned in 1849. Increased traffic (35) would undoubtedly have warranted its construction had it not been for the development of the railroads.

12. Why does the author most likely mention George Washington in the first paragraph?
    (A) He was President at the time the Erie Canal was built.
    (B) He was involved in pioneering efforts to build canals.
    (C) He successfully opened the first canal in the United States.
    (D) He commissioned engineers to study the possibility of building the Erie Canal.

13. The word "feasibility" in line 6 is closest in meaning to
    (A) profitability
    (B) difficulty
    (C) possibility
    (D) capability

14. According to the passage, the Erie Canal connected the
    (A) Potomac and Ohio rivers
    (B) Hudson River and Lake Erie
    (C) Delaware and Potomac rivers
    (D) Atlantic Ocean and the Hudson River

15. Which of the following is closest in meaning to the word "comparatively" in line 17?
    (A) Relatively
    (B) Contrarily
    (C) Incredibly
    (D) Considerably

16. The phrase "on-again-off-again" in line 20 could be replaced by which of the following with the least change in meaning?
    (A) Intermittent
    (B) Unsolicited
    (C) Ineffectual
    (D) Gradual

17. The completion of the Erie Canal was financed by
    (A) the state of New York
    (B) private companies
    (C) the federal government
    (D) DeWitt Clinton

18. The actual cost of building the Erie Canal was
    (A) five million dollars
    (B) less than had been estimated
    (C) seven million dollars
    (D) more than could be repaid

19. The word "tolls" in line 26 is closest in meaning to which of the following?
    (A) Jobs
    (B) Grants
    (C) Links
    (D) Fees

LIVEWORKSHEETS

20. Which of the following is NOT given in the fourth paragraph as an effect of the building of the Erie Canal?
(A) It allowed the East Coast to trade with the Great Lakes area.
(B) It took water traffic away from the Mississippi River.
(C) It helped determine the outcome of the Civil War.
(D) It established Boston and Philadelphia as the most important centers of trade.

21. What can be inferred about railroads in 1849 from the information in the last paragraph?
(A) They were being planned but had not yet been built.
(B) They were seriously underdeveloped.
(C) They had begun to compete with the Erie Canal for traffic.
(D) They were weakened by the expansion of the canal.

22. The word "warranted" in line 35 is closest in meaning to
(A) guaranteed
(B) justified
(C) hastened
(D) prevented

23. At what point in the passage does the author focus on the beginning of construction of the Erie Canal?
(A) Lines 3–5
(B) Lines 10–13
(C) Lines 16–18
(D) Lines 25–26

Questions 24–33

It's a sound you will probably never hear, a sickened tree sending out a distress signal. But a group of scientists has heard the cries, and they think some insects also hear the trees and are drawn to them like vultures to a dying animal.

Researchers with the U.S. Department of Agriculture's Forest Service fastened sensors to the bark of parched trees and clearly heard distress calls. According to one of the scientists, most drought-stricken trees transmit their plight in the 50- to 500-kilohertz range. (The unaided human ear can detect no more than 20 kilohertz.) Red oak, maple, white pine, and birch all make slightly different sounds in the form of vibrations at the surface of the wood.

The scientists think that the vibrations are created when the water columns inside tubes that run the length of the tree break, a result of too little water flowing through them. These fractured columns send out distinctive vibration patterns. Because some insects communicate at ultrasonic frequencies, they may pick up the trees' vibrations and attack the weakened trees. Researchers are now running tests with potted trees that have been deprived of water to see if the sound is what attracts the insects. "Water-stressed trees also smell differently from other trees, and they experience thermal changes, so insects could be responding to something other than sound," one scientist said.

24. Which of the following is the main topic of the passage?
(A) The vibrations produced by insects
(B) The mission of the U.S. Forest Service
(C) The effect of insects on trees
(D) The sounds made by distressed trees

25. The word "them" in line 4 refers to
(A) trees
(B) scientists
(C) insects
(D) cries

26. The word "parched" in line 6 is closest in meaning to which of the following?
(A) Burned
(B) Dehydrated
(C) Recovered
(D) Fallen

27. The word "plight" in line 8 is closest in meaning to
(A) signal
(B) condition
(C) need
(D) agony

28. It can be inferred from the passage that the sounds produced by the trees
(A) serve as a form of communication with other trees
(B) are the same no matter what type of tree produces them
(C) cannot be heard by the unaided human ear
(D) fall into the 1–20 kilohertz range

LIVEWORKSHEETS

29. The word "fractured" in line 15 is closest in meaning to
(A) long
(B) blocked
(C) hollow
(D) broken

30. Which of the following could be considered a cause of the trees' distress signals?
(A) Torn roots
(B) Attacks by insects
(C) Experiments by scientists
(D) Lack of water

31. In line 17, the phrase "pick up" could best be replaced by which of the following?
(A) Perceive
(B) Lift
(C) Transmit
(D) Attack

32. All of the following are mentioned as possible factors in drawing insects to weakened trees EXCEPT
(A) thermal changes
(B) smells
(C) sounds
(D) changes in color

33. It can be inferred that, at the time the passage was written, research concerning the distress signals of trees
(A) had been conducted many years earlier
(B) had been unproductive up to then
(C) was continuing
(D) was no longer sponsored by the government

Questions 34–41

The concepts of analogy and homology are probably easier to exemplify than to define. When different species are structurally compared, certain features can be described as either analogous or homologous. For example, flight requires certain rigid aeronautical principles of design, yet birds, bats, and insects have all conquered the air. The wings of all three types of animals derive from different embryological structures, but they perform the same functions. In this case, the flight organs of these creatures can be said to be analogous. In contrast, features that arise from the same structures in the embryo but are used in different functions are said to be homologous. The pectoral fins of a fish, the wings of a bird, and the forelimbs of a mammal are all homologous structures. They are genetically related in the sense that both the forelimb and the wing evolved from the fin.

34. Which of the following best describes the organization of the passage?
(A) A contrast is drawn between two concepts by means of examples.
(B) A general concept is introduced, examples are given, and a conclusion is offered.
(C) Two definitions of the same concept are compared.
(D) Two proposals are suggested and support for both is offered.

35. According to the passage, the concepts of analogy and homology are
(A) difficult to understand
(B) easier to understand through examples than through definitions
(C) impossible to explain
(D) simple to define but hard to apply

36. The word "rigid" in line 4 is closest in meaning to
(A) inflexible
(B) ideal
(C) unnatural
(D) steep

37. According to the information provided in the passage, which of the following would most probably be considered analogous?
(A) A shark's fin and a tiger's claws
(B) A man's arms and a bird's wings
(C) A monkey's tail and an elephant's tail
(D) A spider's legs and a horse's legs

38. According to the passage, one way in which homologous organs differ from analogous organs is that they
(A) are genetically related
(B) are only found in highly developed animals
(C) perform the same general functions
(D) come from different embryological structures

LIVEWORKSHEETS

39. As used throughout the passage, the term "structures" most nearly means
(A) buildings
(B) features of an animal's anatomy
(C) organizational principles
(D) units of grammar

40. The word "sense" in line 13 is closest in meaning to
(A) feeling
(B) logic
(C) meaning
(D) perception

41. Where in the passage does the author first focus his discussion on the concept of homology?
(A) Lines 2–4
(B) Lines 6–8
(C) Lines 9–11
(D) Lines 13–14

Questions 42–50

Probably the most famous film commenting on twentieth century technology is *Modern Times*, made in 1936. Charlie Chaplin was motivated to make the film by a reporter who, while interviewing him, happened to describe working conditions in industrial Detroit. Chaplin was told that healthy young farm boys were lured to the city to work on automotive assembly lines. Within four or five years, these young men's health was destroyed by the stress of work in the factories.

The film opens with a shot of a mass of sheep making their way down a crowded ramp. Abruptly the scene shifts to a scene of factory workers jostling one another on their way to a factory. However, the rather bitter note of criticism in the implied comparison is not sustained. It is replaced by a gentler note of satire. Chaplin prefers to entertain rather than lecture.

Scenes of factory interiors account for only about one-third of the footage of *Modern Times*, but they contain some of the most pointed social commentary as well as the most comic situations. No one who has seen the film can ever forget Chaplin vainly trying to keep pace with the fast-moving conveyor belt, almost losing his mind in the process. Another popular scene involves an automatic feeding machine brought to the assembly line so that workers need not interrupt their labor to eat. The feeding machine malfunctions, hurling food at Chaplin, who is strapped into his position on the assembly line and cannot escape. This serves to illustrate people's utter helplessness in the face of machines that are meant to serve their basic needs.

Clearly, *Modern Times* has its faults, but it remains the best film treating technology within a social context. It does not offer a radical social message, but it does accurately reflect the sentiments of many who feel they are victims of an over-mechanized world.

42. The author's main purpose in writing this passage is to
(A) criticize the factory system of the 1930's
(B) analyze an important film
(C) explain Chaplin's style of acting
(D) discuss how film reveals the benefits of technology

43. According to the passage, Chaplin got the idea for the film *Modern Times* from
(A) a newspaper article
(B) a scene in a movie
(C) a job he had once held
(D) a conversation with a reporter

44. The word "abruptly" in line 10 is closest in meaning to
(A) suddenly
(B) mysteriously
(C) finally
(D) predictably

45. It can be inferred from the passage that two-thirds of the film *Modern Times*
(A) is completely unforgettable
(B) takes place outside a factory
(C) is more critical than the other third
(D) entertains the audience more than the other third

46. Which of the following could best replace the phrase "losing his mind" in lines 19–20?
(A) Getting fired
(B) Doing his job
(C) Going insane
(D) Falling behind

LIVEWORKSHEETS

47. The word "This" in line 24 refers to which of the following?
    (A) The machine
    (B) The food
    (C) The assembly line
    (D) The scene

48. According to the passage, the purpose of the scene involving the feeding machine is to show people's
    (A) ingenuity
    (B) adaptability
    (C) helplessness
    (D) independence

49. The word "utter" in line 25 is closest in meaning to which of the following?
    (A) Notable
    (B) Complete
    (C) Regrettable
    (D) Necessary

50. The author would probably be LEAST likely to use which of the following words to describe the film *Modern Times*?
    (A) Revolutionary
    (B) Entertaining
    (C) Memorable
    (D) Satirical

THIS IS THE END OF THE SAMPLE READING COMPREHENSION SECTION.

IF YOU FINISH BEFORE TIME IS CALLED,

GO BACK AND CHECK YOUR WORK IN THIS SECTION ONLY.



LIVEWORKSHEETS