

Questions 1-11

Bees, classified into over 10,000 species, are insects found in almost every part of the

world except the northernmost and southernmost regions. One commonly known species is the honeybee, the only bee that produces honey and wax. Humans use the wax in making candles, lipsticks, and other products, and they use the honey as a food. While gathering the nectar and pollen with which they make honey, bees are simultaneously helping to fertilize the flowers on which they land.

Many fruits and vegetables would not survive if bees did not carry the pollen from blossom to blossom. Bees live in a structured environment and social structure within a hive, which is a nest with storage space for the honey. The different types of bees each perform a unique function. The worker bee carries nectar to the hive in a special stomach called a honey stomach. Other workers make beeswax and shape it into a honeycomb, which is a waterproof mass of six-sided compartments, or cells. The queen lays eggs in completed cells. As the workers build more cells, the queen lays more eggs.

All workers, like the queen, are female, but the workers are smaller than the queen. The male honeybees are called drones; they do no work and cannot sting. They are developed from unfertilized eggs, and their only job is to impregnate a queen. The queen must be fertilized in order to lay worker eggs. During the season when less honey is available and the drone is of no further use, the workers block the drones from eating the honey so that they will starve to death.

1. Which of the following is the best title for this reading?

- A. The Many Species of Bees
- B. The Useless Drone
- C. The Honeybee — Its Characteristics and Usefulness
- D. Making Honey

2. The word *species* in the first sentence is closest in meaning to

- A. mates.
- B. varieties.
- C. killers.
- D. enemies.

3. The word *which* in the fourth sentence refers to

- A. fertilizer.
- B. flowers.
- C. honey.

D. bees.

4. The word *simultaneously* in the fourth sentence is closest in meaning to

- A. stubbornly.
- B. concurrently.**
- C. skillfully.
- D. diligently.

5. According to the passage, a *hive* is

- A. a type of honey.
- B. a nest.**
- C. a type of bee.
- D. a storage space.

6. According to the passage, the drone

- A. collects less honey than workers.
- B. mates with the queen and has no other purpose.**
- C. comes from eggs fertilized by other drones.
- D. can be male or female.

7. The author implies that

- A. bees are unnecessary in the food chain.
- B. drones are completely dispensable.
- C. the queen can be a worker.
- D. drones are never females.**

8. According to the passage, honey is carried to the hive in a honey stomach by the

- A. queens.
- B. drones.
- C. males.
- D. workers.**

9. In what way does the reading imply that bees are useful in nature?

- A. They pollinate fruit and vegetable plants.**
- B. They make marvelous creations from wax.
- C. They kill the dangerous drones.
- D. They create storage spaces.

10. All of the following are characteristic of a honeycomb except

- A. it contains hexagonal sections.
- B. it is made of honey.**
- C. it is made of wax.
- D. it is impermeable.

11. The passage implies that bees can be found in each of the following parts of the world except

- A. Africa.

- B.** China.
- C.** Europe.
- D.** Antarctica.

Questions 12-18

It was previously believed that dinosaurs were cold-blooded creatures, like reptiles. However, a recent discovery has led researchers to believe they may have been warm-blooded. The fossilized remains of a 66 million-year-old dinosaur's heart were discovered and examined by x-ray. The basis for the analysis that they were warm-blooded is the number of chambers in the heart as well as the existence of a single aorta. Most reptiles have three chambers in their hearts, although some do have four. But those that have four chambers, such as the crocodile, have two arteries to mix the oxygen-heavy blood with oxygen-lean blood. Reptiles are cold-blooded, meaning that they are dependent on the environment for body heat. Yet the fossilized heart had four chambers in the heart as well as a single aorta.

The single aorta means that the oxygen-rich blood was completely separated from the oxygen-poor blood and sent through the aorta to all parts of the body. Mammals, on the other hand, are warm-blooded, meaning that they generate their own body heat and are thus more tolerant of temperature extremes. Birds and mammals, because they are warm blooded, move more swiftly and have greater physical endurance than reptiles.

Scientists believe that the evidence now points to the idea that all dinosaurs were actually warm-blooded. Ironically, the particular dinosaur in which the discovery was made was a *Tescelosaurus*, which translates to "marvelous lizard." A lizard, of course, is a reptile.

12. The word they in the second sentence refers to
 - A. researchers.
 - B. discoveries.
 - C. reptiles.
 - D. dinosaurs.

13. According to the author, what theory was previously held and now is being questioned?
 - A. That dinosaurs were warm-blooded
 - B. That dinosaurs had four-chambered hearts
 - C. That dinosaurs were swifter and stronger than reptiles
 - D. That dinosaurs were cold-blooded**

14. What is the basis of the researchers' new theory?

- A. They performed mathematical calculations and determined that dinosaurs must have had four chambered hearts.
- B. They found a fossil of an entire dinosaur and reviewed the arteries and veins flowing from and to the heart.
- C. They found a fossil of a dinosaur's heart and discovered it had four chambers and one aorta.
- D. They viewed a fossil of a dinosaur's heart and discovered that it had two aortas.

15. The author implies that reptiles

- A. have four-chambered hearts.
- B. have one aorta.
- C. are cold-blooded.
- D. are faster and have more endurance than mammals.

16. The word generate in paragraph three is closest in meaning to

- A. produce.
- B. lose.
- C. use.
- D. tolerate.

17. The author implies that birds

- A. move faster and have greater endurance than reptiles.
- B. move slower and have less endurance than reptiles.
- C. move faster and have greater endurance than dinosaurs.
- D. move slower and have less endurance than dinosaurs.

18. What does the author imply by the sentence: Ironically, the particular dinosaur in which the discovery was made was a *Tescelosaurus*, which translates to "marvelous lizard."

- A. It is paradoxical that the dinosaur's name includes the word lizard, because now scientists believe it is not a lizard.
- B. It is unusual that the creature would have a name with the suffix of a dinosaur.
- C. It is surprising that the fossilized heart was discovered.
- D. It should have been realized long ago that dinosaurs were warm-blooded.

Questions 19-30

A new procedure has been developed to treat aneurysms, particularly those that occur near the brain stem, where surgery is dangerous. Aneurysms are blood sacs formed by enlargement of the weakened wall of arteries or veins. They are dangerous and thus must generally be removed before they cause considerable damage. If one ruptures, it can cause strokes or fatal hemorrhaging, the latter of which occurs in 50 percent of all patients.

Before rupturing, an aneurysm frequently shows no sign or symptom that it exists. Brain aneurysms occur in approximately 5 percent of the population. Most patients are between 40 and 65 years old, with hemorrhages most prevalent in those between 50 and 54. The new procedure involves inserting a soft, flexible micro-catheter through the femoral artery in the groin area and snaking it up through blood vessels to the brain. Inside the catheter is a small, coiled wire, which can be extruded after it reaches its destination. After the coil is outside the catheter, a low voltage electrical current is applied, and the coil detaches at a preset solder point. Additional coils are snaked through the catheter and also detached at the site, creating a basket, or metal framework, which causes the blood to clot around it. The micro-catheter is withdrawn, the clot remains, and the healed aneurysm no longer is exposed to the stress that can cause another rupture.

The procedure lasts two hours, which is half as long as invasive surgery, and recovery time is generally limited to a few days instead of a few weeks. The procedure was discovered in the 1990s, was approved by the U.S. Food and Drug Administration in 1995, and is available in various hospitals where there are advanced neurology departments and specialists trained in the procedure.

Many lives have been saved by use of the procedure, because the alternative would have been to watch and wait rather than risk the hazards of surgery.

19. The author implies that the procedure described is useful for

- A. all aneurysms.
- B. aneurysms that occur anywhere in the brain.
- C. aneurysms that occur near the brain stem only.
- D. aneurysms that occur near large blood vessels.

20. The word *They* in the first paragraph refers to

- A. aneurysms. B. brain stems. C. surgeries. D. procedures.

21. The word *considerable* in the first paragraph is closest in meaning to

- A. slight.
- B. kind.
- C. significant.
- D. recurring.

22. The word *one* in the first paragraph refers to

- A. brain stem. B. aneurysm. C. procedure. D. surgery.

23. The word *snaking* in the second paragraph is closest in meaning to

- A. meandering.
- B. extruding.
- C. living.
- D. damaging.

24. The word *withdrawn* in the second paragraph is closest in meaning to

- A. removed.
- B. too large.
- C. charged.
- D. inserted.

25. An aneurysm is most similar to

- A. an ulcer.
- B. a hernia.
- C. a heart attack.
- D. cancer.

26. The author indicates that half of the patients who have a brain aneurysm could also have

- A. a stroke.
- B. a seizure.
- C. a heart attack.
- D. hemorrhaging that results in death.

27. The author indicates that the femoral artery is

- A. small.
- B. in the upper thigh.
- C. in the brain.
- D. connected to the brain.

28. The author states that the electrical charge is applied in order to

- A. stimulate the brain.
- B. stimulate the aneurysm.
- C. dissolve the aneurysm.
- D. separate the coil from the wire.

29. The author implies that the wire breaks off

- A. randomly.
- B. by being cut with an additional tool.
- C. at a predetermined and prepared location on the wire.
- D. inside the micro-catheter.

30. The author implies that the new procedure

- A. can be performed at any hospital.
- B. is performed only at hospitals containing the required equipment and certified doctors.
- C. is performed by certified doctors but requires no special equipment.
- D. is performed by any surgeon using special equipment.

