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# TPO 3

## READING

### ARCHITECTURE

#### Paragraph 1:

1. According to paragraph 1, all of the following statements about architecture are true EXCEPT:
- A. Architecture is visual art.
  - B. Architecture reflects the cultural values of its creators.
  - C. Architecture has both artistic and scientific dimensions.
  - D. Architecture has an indirect effect on life.

Architecture is the art and science of designing structures that organize and enclose space for practical and symbolic purposes. Because architecture grows out of human needs and aspirations, it clearly communicates cultural values. Of all the visual arts, architecture affects our lives most directly for it determines the character of the human environment in major ways.

#### Paragraph 2:

2. The word “feasible” in the passage is closest in meaning to
- A. In existence
  - B. Without question
  - C. Achievable
  - D. Most likely

Architecture is a three-dimensional form. It utilizes space, mass, texture, line, light, and color. To be architecture, a building must achieve a working harmony with a variety of elements. Humans instinctively seek structures that will shelter and enhance their way of life. It is the work of architects to create buildings that are not simply constructions but also offer inspiration and delight. Buildings contribute to human life when they provide shelter, enrich space, complement their site, suit the climate, and are economically feasible. The client who pays for the building and defines its function is an important member of the architectural team. The mediocre design of many contemporary buildings can be traced to both clients and architects.

#### Paragraph 3:

3. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incorrect

In order for the structure to achieve the size and strength necessary to meet its purpose, architecture employs methods of support that, because they are based on physical laws, have changed little since people first discovered them-

choices change the meaning in important ways or leave out essential information.

- A. Unchanging physical laws have limited the size and strength of buildings that can be made with materials discovered long ago.
  - B. Building materials have changed in order to increase architectural size and strength, but physical laws of structure have not changed.
  - C. When people first started to build, the structural methods used to provide strength and size were inadequate because they were not based on physical laws.
  - D. Unlike building materials, the methods of support used in architecture have not changed over time because they are based on physical laws.
4. The word “devised” in the passage is closest in meaning to
- A. Combined
  - B. Created
  - C. Introduced
  - D. Suggested

#### Paragraph 4:

5. The word “integral” is closest in meaning to
- A. Essential
  - B. Variable
  - C. Practical
  - D. Independent
6. According to paragraph 4, which of the following is true about materials used in the construction of buildings?
- A. Because new building materials are hard to find, construction techniques have changed very little from past generations.
  - B. The availability of suitable building materials no longer limits the types of structures that may be built.
  - C. The primary building materials that are available today are wood, stone, and brick.
  - D. Architects in earlier times did not have enough building materials to enclose large spaces.
7. In paragraph 4, what does the author imply

even while building materials have changed dramatically. The world’s architectural structures have also been devised in relation to the objective limitations of materials. Structures can be analyzed in terms of how they deal with downward forces created by gravity. They are designed to withstand the forces of compression (pushing together), tension (pulling apart), bending, or a combination of these in different parts of the structure.

Even development in architecture has been the result of major technological changes. Materials and methods of construction are integral parts of the design of architecture structures. In earlier times it was necessary to design structural systems suitable for the materials that were available, such as wood, stone, brick. Today technology has progressed to the point where it is possible to invent new building materials to suit the type of structure desired. Enormous changes in materials and techniques of construction within the last few generations have made it possible to enclose space with much greater ease and speed and with a minimum of material. Progress in this area can be measured by the difference in weight between buildings built now and those of comparable size built one hundred ago.

about modern buildings?

- A. They occupy much less space than buildings constructed one hundred years ago.
- B. They are not very different from the building of a few generations ago.
- C. They weigh less in relation to their size than buildings constructed one hundred years ago.
- D. They take a long time to build as a result of their complex construction methods.

**Paragraph 5:**

8. Which of the following correctly characterizes the relationship between the human body and architecture that is described in paragraph 5?
- A. Complex equipment inside buildings is the one element in modern architecture that resembles a component of the human body.
  - B. The components in early buildings were similar to three particular elements of the human body.
  - C. Modern buildings have components that are as likely to change as the human body is.
  - D. In general, modern buildings more closely resemble the human body than earlier buildings do.

**Paragraph 6:**

9. The word “arduous” in the passage is closest in meaning to
- A. Difficult
  - B. Necessary
  - C. Skilled
  - D. Shared
10. Why does the author include a description of how the “doorways and windows” of Machu Picchu were constructed?
- A. To indicate that the combined skeletons and skins of the stone buildings of Machu Picchu were similar to igloos and adobe structures
  - B. To indicate the different kinds of stones that had to be cut to build Machu Picchu
  - C. To provide an illustration of the kind of construction that was required before arches were invented
  - D. To explain how ancient builders reduced the

■ Modern architectural forms generally have three separate components comparable to elements of the human body; a supporting skeleton or frame, an outer skin enclosing the interior spaces, equipment, similar to the body’s vital organs and systems. ■ The equipment includes plumbing, electrical wiring, hot water, and air-conditioning. ■ Of course in early architecture—such as igloos and adobe structures—there was no such equipment, and the skeleton and skin were often one. ■

Much of the world’s great architecture has been constructed of stone because of its beauty, permanence, and availability. In the past, whole cities grew from the arduous task of cutting and piling stone upon. Some of the world’s finest stone architecture can be seen in the ruins of the ancient Inca city of Machu Picchu high in the eastern Andes Mountains of Peru. The doorways and windows are made possible by placing over the open spaces thick stone beams that support the weight from above. A structural invention had to be made before the physical limitations of stone could be overcome and new architectural forms could be created. That invention was the arch, a curved structure originally made of separate stone or brick segments. The arch was used by the early cultures of the Mediterranean area chiefly for underground drains, but it was the Romans who first developed and used the arch extensively in aboveground

amount of time necessary to construct buildings from stone.

11. According to paragraph 6, which of the following statements is true of the arch?
- A. The Romans were the first people to use the stone arch.
  - B. The invention of the arch allowed new architectural forms to be developed.
  - C. The arch worked by distributing the structural load of a building toward the center of the arch.
  - D. The Romans followed earlier practices in their use of arches.

structures. Roman builders perfected the semicircular arch made of separate blocks of stone. As a method of spanning space, the arch can support greater weight than a horizontal beam. It works in compression to divert the weight above it out to the sides, where the weight is borne by the vertical elements on either side of the arch. The arch is among the many important structural breakthroughs that have characterized architecture throughout the centuries.

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#### Paragraph 5:

12. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

**However, some modern architectural designs, such as those using folded plates of concrete or air-inflated structures, are again unifying skeleton and skin.**

Where would the sentence best fit? Click on a square to add the sentence to the passage.

13. Architecture uses forms and space to express cultural values.

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#### Answer choices

- A. Architects seek to create buildings that are both visually appealing and well suited for human use.
- B. Over the course of the history of building, innovations in material and methods of construction have given architects ever greater freedom to express themselves.
- C. Throughout history buildings have been constructed like human bodies, needing distinct “organ” systems in order to function.
- D. Both clients and architects are responsible for the mediocre designs of some modern

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■ Modern architectural forms generally have three separate components comparable to elements of the human body; a supporting skeleton or frame, an outer skin enclosing the interior spaces, equipment, similar to the body's vital organs and systems. ■ The equipment includes plumbing, electrical wiring, hot water, and air-conditioning. ■ Of course in early architecture—such as igloos and adobe structures—there was no such equipment, and the skeleton and skin were often one. ■

- buildings.
- E. Modern buildings tend to lack the beauty of ancient stone buildings such as those of Machu Picchu.
  - F. The discovery and use of the arch typifies the way in which architecture advances by developing more efficient types of structures.
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**Paragraph 1:**

- 1. According to paragraph 1, which of the following statements about the High Plains is true?
- A. Until farmers and ranchers settled there in the 1880's, the High Plains had never been inhabited.
- B. The climate of the High Plains is characterized by higher-than-average temperatures.
- C. The large aquifer that lies underneath the High Plains was discovered by the Ogallala Sioux Indians.
- D. Before the early 1900's there was only a small amount of farming and ranching in the High Plains.

**Paragraph 2:**

- 2. According to paragraph 2, all of the following statements about the Ogallala aquifer are true EXCEPT:
  - A. The aquifer stretches from South Dakota to Texas.
  - B. The aquifer's water comes from underground springs.
  - C. Water has been gathering in the aquifer for 30,000 years.
  - D. The aquifer's water is stored in a layer of sandstone.
3. Which of the sentences below best expresses the essential information in the highlighted

## Depletion of the Ogallala Aquifer

The vast grasslands of the High Plains in the central United States were settled by farmers and ranchers in the 1880's. This region has a semiarid climate, and for 50 years after its settlement, it supported a low-intensity agricultural economy of cattle ranching and wheat farming. In the early twentieth century, however, it was discovered that much of the High Plains was underlain by a huge aquifer (a rock layer containing large quantities of groundwater). This aquifer was named the Ogallala aquifer after the Ogallala Sioux Indians, who once inhabited the region.

The Ogallala aquifer is a sandstone formation that underlies some 583,000 square kilometers of land extending from northwestern Texas to southern South Dakota. Water from rains and melting snows has been accumulating in the Ogallala for the past 30,000 years. Estimates indicate that the aquifer contains enough water to fill Lake Huron, but unfortunately, under the semiarid climatic conditions that presently exist in the region, rates of addition to the aquifer are minimal, amounting to about half a centimeter a year.

sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.

- A. Despite the current impressive size of the Ogallala aquifer, the region's climate keeps the rates of water addition very small.
- B. Although the aquifer has been adding water at the rate of only half a centimeter a year, it will eventually accumulate enough water to fill Lake Huron.
- C. Because of the region's present climatic conditions, water is being added each year to the aquifer.
- D. Even when the region experiences unfortunate climatic conditions, the rates of addition of water continue to increase.

**Paragraph 3:**

- 4. The word “ensuing” in the passage is closest in meaning to
  - A. Continuing
  - B. Surprising
  - C. Initial
  - D. Subsequent
- 5. In paragraph 3, why does the author provide the information that 40 percent of American cattle are fattened in the High Plains?
  - A. To suggest that crop cultivation is not the most important part of the economy of the High Plains
  - B. To indicate that not all economic activity in the High Plains is dependent on irrigation
  - C. To provide another example of how water from the Ogallala has transformed the economy of the High Plains
  - D. To contrast cattle-fattening practices in the High Plains with those used in other regions of the United States

**Paragraph 4:**

- 6. The word “unprecedented” in the passage is closest in meaning to
  - A. Difficult to control
  - B. Without any restriction

The first wells were drilled into the Ogallala during the drought years of the early 1930's. The ensuing rapid expansion of irrigation agriculture, especially from the 1950's onward, transformed the economy of the region. More than 100,000 wells now tap the Ogallala. Modern irrigation devices, each capable of spraying 4.5 million liters of water a day, have produced a landscape dominated by geometric patterns of circular green islands of crops. Ogallala water has enabled the High Plains region to supply significant amounts of the cotton, sorghum, wheat, and corn grown in the United States. In addition, 40 percent of American grain-fed beef cattle are fattened here.

This unprecedented development of a finite groundwater resource with an almost negligible natural recharge rate—that is, virtually no natural water source to replenish the water supply—has caused water tables in the region to fall drastically. In the 1930's, wells

- C. Unlike anything in the past
- D. Rapidly expanding

7. The word “virtually” in the passage is closest in meaning to

- A. Clearly
- B. Perhaps
- C. Frequently
- D. Almost

8. According to paragraph 4, all of following are consequences of the heavy use of the Ogallala aquifer for irrigation EXCEPT:

- A. The recharge rate of the aquifer is decreasing.
- B. Water tables in the region are becoming increasingly lower.
- C. Wells now have to be dug to much greater depths than before.
- D. Increasingly powerful pumps are needed to draw water from the aquifer.

9. According to paragraph 4, compared with all other states that use Ogallala water for irrigation, Texas

- A. Has the greatest amount of farmland being irrigated with Ogallala water
- B. Contains the largest amount of Ogallala water underneath the soil
- C. Is expected to face the worst water supply crisis as the Ogallala runs dry
- D. Uses the least amount of Ogallala water for its irrigation needs

#### **Paragraph 5:**

10. The word “inevitable” in the passage is closest in meaning to

- A. Unfortunate
- B. Predictable
- C. Unavoidable
- D. Final

11. Paragraph 5 mentions which of the following as a source of difficulty for some farmers who try to conserve water?

- A. Crops that do not need much water are difficult to grow in the High Plains.
- B. Farmers who grow crops that need a lot of

encountered plentiful water at a depth of about 15 meters; currently, they must be dug to depths of 45 to 60 meters or more. In places, the water table is declining at a rate of a meter a year, necessitating the periodic deepening of wells and the use of ever-more-powerful pumps. It is estimated that at current withdrawal rates, much of the aquifer will run dry within 40 years. The situation is most critical in Texas, where the climate is driest, the greatest amount of water is being pumped, and the aquifer contains the least water. It is projected that the remaining Ogallala water will, by the year 2030, support only 35 to 40 percent of the irrigated acreage in Texas that is supported in 1980.

The reaction of farmers to the inevitable depletion of the Ogallala varies. Many have been attempting to conserve water by irrigating less frequently or by switching to crops that require less water. Other, however, have adopted the philosophy that it is best to use the water while it is still economically profitable to do so and to concentrate on high-value crops such as cotton. The incentive of the farmers who wish to conserve water is reduced by their knowledge that many of their neighbors are profiting by using great amounts of water, and in the process are drawing down the entire region’s water supplies.

- water make higher profits.
- C. Irrigating less frequently often leads to crop failure.
  - D. Few farmers are convinced that the aquifer will eventually run dry.

**Paragraph 6:**

12. According to paragraph 6, what is the main disadvantage of the proposed plans to transport river water to the High Plains?
- A. The rivers cannot supply sufficient water for the farmer's needs.
  - B. Increased irrigation costs would make the products too expensive.
  - C. The costs of using capillary water for irrigation will increase.
  - D. Farmers will be forced to switch to genetically engineered crops.

In the face of the upcoming water supply crisis, a number of grandiose schemes have been developed to transport vast quantities of water by canal or pipeline from the Mississippi, the Missouri, or the Arkansas rivers. ■ Unfortunately, the cost of water obtained through any of these schemes would increase pumping costs at least tenfold, making the cost of irrigated agricultural products from the region uncompetitive on the national and international markets. Somewhat more promising have been recent experiments for releasing capillary water (water in the soil) above the water table by injecting compressed air into the ground. Even if this process proves successful, however, it would almost triple water costs. Genetic engineering also may provide a partial solution, as new strains of drought-resistant crops continue to be developed. Whatever the final answer to the water crisis may be, it is evident that within the High Plains, irrigation water will never again be the abundant, inexpensive resource it was during the agricultural boom years of the mid-twentieth century.

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**Paragraph 5—6:**

13. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

**But even if uncooperative farmers were to join in the conservation efforts, this would only delay the depletion of the aquifer.**

The reaction of farmers to the inevitable depletion of the Ogallala varies. Many have been attempting to conserve water by irrigating less frequently or by switching to crops that require less water. ■ Other, however, have adopted the philosophy that it is best to use the water while it is still economically profitable to do so and to concentrate on high-value crops such as cotton. ■ The incentive of the farmers who wish to conserve water is reduced

Where would the sentence best fit? Click on a square to add the sentence to the passage.

14. The Ogallala is a large underground source of water in the High Plains region of the United States.

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Answer choices

- A. The use of the Ogallala for irrigation has allowed the High Plains to become one of the most productive agricultural regions in the United States.
- B. Given the aquifer's low recharge rate, its use for irrigation is causing water tables to drop and will eventually lead to its depletion.
- C. Releasing capillary water and introducing drought-resistant crops are less-promising solutions to the water supply crisis than bringing in river water
- D. The periodic deepening of wells and the use of more-powerful pumps would help increase the natural recharge rate of the Ogallala.
- E. In Texas, a great deal of attention is being paid to genetic engineering because it is there that the most critical situation exists.
- F. Several solutions to the upcoming water supply crisis have been proposed, but none of them promises to keep the costs of irrigation low.

by their knowledge that many of their neighbors are profiting by using great amounts of water, and in the process are drawing down the entire region's water supplies. ■

In the face of the upcoming water supply crisis, a number of grandiose schemes have been developed to transport vast quantities of water by canal or pipeline from the Mississippi, the Missouri, or the Arkansas rivers. ■ Unfortunately, the cost of water obtained through any of these schemes would increase pumping costs at least tenfold, making the cost of irrigated agricultural products from the region uncompetitive on the national and international markets. Somewhat more promising have been recent experiments for releasing capillary water (water in the soil) above the water table by injecting compressed air into the ground.

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#### Paragraph 1:

1. The word “particular” in the passage is closest in meaning to

- A. Natural
- B. Final
- C. Specific

## The Long-Term Stability of Ecosystems

Plant communities assemble themselves flexibly, and their particular structure depends on the specific history of the area. Ecologists use the term “succession” to refer to the changes that happen in

#### D. Complex

2. According to paragraph 1, which of the following is NOT true of climax communities?
- A. They occur at the end of a succession.
  - B. They last longer than any other type of community.
  - C. The numbers of plants in them and the mix of species do not change.
  - D. They remain stable for at least 500 years at a time.

#### Paragraph 2:

3. According to paragraph 2, which of the following principles of ecosystems can be learned by studying a pond?
- A. Ecosystem properties change more slowly than individuals in the system.
  - B. The stability of an ecosystem tends to change as individuals are replaced.
  - C. Individual organisms are stable from one year to the next.
  - D. A change in the members of an organism does not affect an ecosystem's properties

#### Paragraph 3:

4. According to paragraph 3, ecologists once believed that which of the following illustrated the most stable ecosystems?
- A. Pioneer communities
  - B. Climax communities
  - C. Single-crop farmlands
  - D. Successional plant communities

plant communities and ecosystems over time. The first community in a succession is called a pioneer community, while the long-lived community at the end of succession is called a climax community. Pioneer and successional plant communities are said to change over periods from 1 to 500 years. These changes—in plant numbers and the mix of species—are cumulative. Climax communities themselves change but over periods of time greater than about 500 years.

An ecologist who studies a pond today may well find it relatively unchanged in a year's time. Individual fish may be replaced, but the number of fish will tend to be the same from one year to the next. We can say that the properties of an ecosystem are more stable than the individual organisms that compose the ecosystem.

At one time, ecologists believed that species diversity made ecosystems stable. They believed that the greater the diversity the more stable the ecosystem. Support for this idea came from the observation that long-lasting climax communities usually have more complex food webs and more species diversity than pioneer communities. Ecologists concluded that the apparent stability of climax ecosystems depended on their complexity. To take an extreme example, farmlands dominated by a single crop are so unstable that one year of bad weather or the invasion of a single pest can destroy the entire crop. In contrast, a complex climax community, such as a temperate forest, will tolerate considerable damage from weather to pests.

**Paragraph 4:**

5. According to paragraph 4, why is the question of ecosystem stability complicated?
- A. The reasons for ecosystem change are not always clear.
  - B. Ecologists often confuse the word “stability” with the word “resilience.”
  - C. The exact meaning of the word “stability” is debated by ecologists.
  - D. There are many different answers to ecological questions.
6. According to paragraph 4, which of the following is true of climax communities?
- A. They are more resilient than pioneer communities.
  - B. They can be considered both the most and the least stable communities.
  - C. They are stable because they recover quickly after major disturbances.
  - D. They are the most resilient communities because they change the least over time.

**Paragraph 5:**

7. Which of the following can be inferred from paragraph 5 about redwood forests?
- A. They become less stable as they mature.
  - B. They support many species when they reach climax.
  - C. They are found in temperate zones.
  - D. They have reduced diversity during mid-successional stages.
8. The word “guarantee” in the passage is closest in meaning to
- A. Increase
  - B. Ensure
  - C. Favor
  - D. Complicate
9. In paragraph 5, why does the author provide the information that “(A fifteen-speed racing bicycle is more likely to break down than a child’s tricycle)?”
- A. To illustrate a general principle about the stability of systems by using an

The question of ecosystem stability is complicated, however. The first problem is that ecologists do not all agree what “stability” means. Stability can be defined as simply lack of change. In that case, the climax community would be considered the most stable, since, by definition, it changes the least over time. Alternatively, stability can be defined as the speed with which an ecosystem returns to a particular form following a major disturbance, such as a fire. This kind of stability is also called resilience. In that case, climax communities would be the most fragile and the least stable, since they can require hundreds of years to return to the climax state.

Even the kind of stability defined as simple lack of change is not always associated with maximum diversity. At least in temperate zones, maximum diversity is often found in mid-successional stages, not in the climax community. Once a redwood forest matures, for example, the kinds of species and the number of individuals growing on the forest floor are reduced. In general, diversity, by itself, does not ensure stability. Mathematical models of ecosystems likewise suggest that diversity does not guarantee ecosystem stability—just the opposite, in fact. A more complicated system is, in general, more likely than a simple system to break down. (A fifteen-speed racing bicycle is more likely to break down than a child’s tricycle.)

- everyday example
- B. To demonstrate that an understanding of stability in ecosystems can be applied to help understand stability in other situations
  - C. To make a comparison that supports the claim that, in general, stability increases with diversity
  - D. To provide an example that contradicts mathematical models of ecosystems

**Paragraph 6:**

10. The word “pales” in the passage is closest in meaning to
- A. Increases proportionally
  - B. Differs
  - C. Loses significance
  - D. Is common

Ecologists are especially interested to know what factors contribute to the resilience of communities because climax communities all over the world are being severely damaged or destroyed by human activities. The destruction caused by the volcanic explosion of Mount St. Helens, in the northwestern United States, for example, pales in comparison to the destruction caused by humans. We need to know what aspects of a community are most important to the community’s resistance to destruction, as well as its recovery.

**Paragraph 7:**

11. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incurred choices change the meaning in important ways or leave out essential information.

- A. Ecologists now think that the stability of an environment is a result of diversity rather than patchiness.
- B. Patchy environments that vary from place to place do not often have high species diversity.
- C. Uniform environments cannot be climax communities because they do not support as many types of organisms as patchy environments.
- D. A patchy environment is thought to increase stability because it is able to support a wide variety of organisms.

Many ecologists now think that the relative long-term stability of climax communities comes not from diversity but from the “patchiness” of the environment, an environment that varies from place to place supports more kinds of organisms than an environment that is uniform. A local population that goes extinct is quickly replaced by immigrants from an adjacent community. Even if the new population is of a different species, it can approximately fill the niche vacated by the extinct population and keep the food web intact.

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12. The word “adjacent” in the passage is closest in meaning to

- A. Foreign
- B. Stable
- C. Fluid
- D. Neighboring

**Paragraph 6:**

13. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

**In fact, damage to the environment by humans is often much more severe than damage by natural events and processes.**

Where would the sentence best fit? Click on a square to add the sentence to the passage.

14. The process of succession and the stability of a climax community can change over time.

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**Answer choices**

- A. The changes that occur in an ecosystem from the pioneer to the climax community can be seen in one human generation.
- B. A high degree of species diversity does not always result in a stable ecosystem.
- C. The level of resilience in a plant community contributes to its long-term stability.
- D. Ecologists agree that climax communities are the most stable types of ecosystems.
- E. Disagreements over the meaning of the term “stability” make it difficult to identify the most stable ecosystems.
- F. The resilience of climax communities makes them resistant to destruction caused by humans.

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■Ecologists are especially interested to know what factors contribute to the resilience of communities because climax communities all over the world are being severely damaged or destroyed by human activities. ■The destruction caused by the volcanic explosion of Mount St. Helens, in the northwestern United States, for example, pales in comparison to the destruction caused by humans. ■We need to know what aspects of a community are most important to the community’s resistance to destruction, as well as its recovery. ■

## **LISTENING**

1. Why does the women come to the office?
  - A. To notify the university of her change of address
  - B. To find out where her physics class is being held
  - C. To get directions to the science building
  - D. To complain about her physics class being canceled
  
2. What happened to the letter the university sent to the woman?
  - A. She threw it away by mistake
  - B. Her roommate forgot to give it to her
  - C. It was sent to her old mailing address
  - D. It was sent to another student by mistake
  
3. Why was the woman's physics class canceled?
  - A. Not enough students signed up to take the class
  - B. No professors were available to teach the class
  - C. The university changed its requirements for physics students
  - D. There were no classrooms available in the science building at the hour
  
4. What does the man suggest the woman do before the beginning of next semester?
  - A. Consult with her advisor about her class schedule
  - B. Check with the registrar's office about the location of the class
  - C. Register for her classes early
  - D. Call the physics department

5. What does the man imply when he say this:

- A. He know the physics class has been canceled
- B. He is not sure where the science building is
- C. Many of the room assignments have been changed
- D. The women can check for herself where her class is

6. What does the professor mainly discuss?

- A. Major changes in the migratory patterns of hummingbirds
- B. The adaptation of hummingbirds to urban environments
- C. Concern about the reduction of hummingbird habitat
- D. The impact of ecotourism on hummingbird populations

7. What does the professor imply might cause a decrease in the hummingbird population?

- A. An increase in the ecotourism industry
- B. An increase in the use of land to raise crops and cattle
- C. A decrease in banding studies
- D. A decrease in the distance traveled during migration

8. What does the professor say people have done to help hummingbirds survive?

- A. They have built a series of hummingbird feeding stations
- B. They have supported new laws that punish polluters of wildlife habitats
- C. They have replanted native flowers in once polluted areas
- D. They have learned to identify various hummingbird species

9. What way of collecting information about migrating hummingbirds does the professor mention?

- A. Receiving radio signals from electronic tracking devices
- B. Being contacted by people who recapture banded birds
- C. Counting the birds that return to the same region every year
- D. Comparing old and young birds' migration routes

10. What does the professor imply researchers have learned while studying hummingbird migration?

- A. Hummingbirds have totally disappeared from some countries due to recent habitat destruction
- B. Programs to replant flowers native to hummingbird habitats are not succeeding
- C. Some groups of hummingbirds have changed their migration patterns
- D. Some plant species pollinated by hummingbirds have become extinct

11. What does the professor imply when she say this:

- A. There is disagreement about the idea she has presented
- B. She does not plan to discuss all the details
- C. Her next point may seem to contradict what she has just said
- D. The point she will make next should be obvious to the students

12. What is the main purpose of the lecture?

- A. To discuss the style of an early filmmaker
- B. To describe different types of filmmaking in the 1930s
- C. To discuss the emergence of the documentary film
- D. To describe Painleve's influence on today's science-fiction films

13. Why are Painleve's films typical of the films of the 1920s and 1930s?

- A. They do not have sound
- B. They are filmed underwater
- C. They are easy to understand
- D. They difficult to categorize

14. According to the professor, how did Painleve's film confuse the audience?

- A. They show animals out of their natural habitat
- B. They depict animals as having both human and animal characteristics
- C. The narration is scientific and difficult to understand
- D. The audiences of the 1920s and 1930s were not used to films shot underwater

15. Why does the professor mention sea horses?

- A. To explain that they were difficult to film in the 1930s
- B. To point out that Cousteau made documentaries about them
- C. To illustrate Painleve's fascination with unusual animals
- D. To explain why Painleve's underwater films were not successful

16. Why does the professor compare the film style of Jacques Cousteau and Jean Painleve?

- A. To explain how Painleve influenced Cousteau
- B. To emphasize the uniqueness of Painleve's filming style
- C. To emphasize the artistic value of Cousteau's documentary films
- D. To demonstrate the superiority of Painleve's filmmaking equipment

17. What does the student imply when he say this:

- A. He does not like Jean Painleve's films
- B. He thinks that the professor should spend more time discussing Jacques Cousteau's film
- C. He believes that high quality filmmakers are usually well known
- D. He believes that Jean Painleve's film have been unfairly overlooked

18. Why does the student go to see the professor?

- A. To ask about a class assignment
- B. To find out about a midsemester project
- C. To get information about summer jobs
- D. To discuss ways to improve his grade

19. What was originally located on the site of the lecture hall?

- A. A farmhouse
- B. A pottery factory
- C. A clothing store
- D. A bottle-manufacturing plant

20. What is mentioned as an advantage of working on this project?

- A. Off-campus travel is paid off
- B. Students can leave class early
- C. The location is convenient
- D. It fulfills a graduation requirement

21. What is the professor considering doing to get move volunteers?

- A. Offering extra class credit
- B. Paying the students for their time
- C. Asking for student volunteers from outside her class
- D. Providing flexible work schedules

22. What information does the student still need to get from the professor?

- A. The name of the senior researcher
- B. What book he needs to read before the next lecture
- C. When the train session will be scheduled
- D. Where the project is located

23. What does the professor mainly discuss?

- A. The oldest known cave art
- B. How ancient cave art is dated
- C. The homes of Paleolithic humans
- D. How Paleolithic humans thought about animals

24. When does the professor mention his daughter?

- A. To describe her reaction to seeing the paintings
- B. To explain the universal appeal for the Chauvet paintings
- C. To demonstrate the size of most Paleolithic cave art
- D. To emphasize his point about the age of Chauvet paintings

25. What is the professor's opinion about the art at the Chauvet cave?

- A. It is extremely well done

- B. It probably reflected artists' religious beliefs
- C. It is less sophisticated than the art at Lascaux and Altamira
- D. It is probably not much older than the art at Lascaux and Altamira

26. According to the professor, what is the significance of charcoal marks on the walls of the Chauvet cave?

- A. They suggest that Paleolithic people cooked their food in the cave
- B. They prove that people came to the cave long after the paintings were made
- C. They show how much light the Paleolithic artists needed for their work
- D. They were used in recent times to date the paintings

27. Compared to other Paleolithic art, what is unusual about the animals painted at Chauvet?

- A. Most of them are horses
- B. Many of them are dangerous
- C. Many of them are shown alongside humans
- D. All of them are species that are still found in France

28. What are two questions about the Chauvet cave artists that the professor raises but cannot answer? Choose two answers below

- A. How they lighted their work area
- B. How they obtained pigments for their paints
- C. Why they chose to paint certain animals and not others
- D. Why they placed their art in dark, uninhabited places

29. What is the lecture mainly about?

- A. Different ways of magnifying the spectrum of a star

- B. How a chemical element was first discovered on the Sun
- C. How astronomers identify the chemical elements in a star
- D. Why the spectra of different stars are composed of different colors

30. What does the professor explain to one of the students about the term “radiation”?

- A. It is defined incorrectly in the textbooks
- B. It was first used in the nineteenth century
- C. It is rarely used by astronomers
- D. It does not refer only to harmful energy

31. What can be inferred about two stars if their spectra have similar spectral line patterns?

- A. The stars are approximately the same distance from the Earth
- B. The stars probably have some chemical elements in common
- C. The stars have nearly the same brightness
- D. The stars are probably of the same size

32. According to the professor, what is the purpose of heating an element in a spectroscopic flame test?

- A. To cause an element to emit light
- B. To study an element in combination with other elements
- C. To remove impurities from the element
- D. To measure an element’s resistance to heat

33. Why does the professor say this?

- A. He is about to provide some background information

- B. He is about to repeat what he just said
- C. He intends to focus on the history of astronomy
- D. He intends to explain two different points of view

34. Why does the professor ask this?

- A. To check the students' understanding of their reading assignment
- B. To give the students a hint to the answer to his previous question
- C. To emphasize how important it is for astronomers to study Greek
- D. To remind the students about the historical background of astronomy

## **SPEAKING**

1. What characteristics do you think make someone a good parent? Explain why these characteristics are important to you.
2. Some students prefer to work on class assignments by themselves. Others believe it is better to work in a group. Which do you prefer?
3. Hot Breakfast Eliminated

Beginning next month, Dining Services will no longer serve hot breakfast foods at university dining halls. Instead, Students will be offered a wide assortment of cold breakfast items in the morning. These cold breakfast foods, such as breads, fruit, and yogurt, are healthier than many of the hot breakfast items that we will stop serving. So, health-conscious students should welcome this change. Students will benefit in another way as well, because limiting the breakfast selection to cold food items will save money and allow us to keep our meal plans affordable.

The woman expressed her opinion of the change that has been announced. State her opinion and explain her reasons for holding that opinion

4. Cognitive dissonance

Individuals sometimes experience a contradiction between their actions and their beliefs---between what they are doing and what they believe they should be doing. These contradictions can cause a kind of mental discomfort known as cognitive dissonance. People experiencing cognitive dissonance often do not want to change the way they are acting, so they resolve the contradictory situation in another way. They change their interpretation of the situation in a way that minimizes the contradiction between what they are doing and what they believe should be doing.

Using the example discussed by the professor, explain what cognitive dissonance is and how people often deal with it

5. The speakers discuss two possible solutions to the woman's problem. Briefly summarize the problem. Then state which of the solutions you recommend and explain why.
6. Using the examples from the talk, explain how persuasive strategies are used in advertising.

## **WRITING**

### **TASK 1**

Rembrandt is the most famous of the seventeenth-century Dutch painters. However, there are doubts whether some paintings attributed to Rembrandt were actually painted by him. One such painting is known as attributed to Rembrandt because of its style, and indeed the representation of the woman's face is very much like that of portraits known to be by Rembrandt. But there are problems with the painting that suggest it could not be a work by Rembrandt.

First, there is something inconsistent about the way the woman in the portrait is dressed. She is wearing a white linen cap of a kind that only servants would wear-yet the coat she is wearing has a luxurious fur collar that no servant could afford. Rembrandt, who was known for his attention to the details of his subjects' clothing, would not have been guilty of such an inconsistency.

Second, Rembrandt was a master of painting light and shadow, but in this painting these elements do not fit together. The face appears to be illuminated by light reflected onto it from below. But below the face is the dark fur collar, which would absorb light rather than reflect it. So the face should appear partially in shadow-which is not how it appears. Rembrandt would never have made such an error.

Finally, examination of the back of the painting reveals that it was painted on a panel made of several pieces of wood glued together. Although Rembrandt often painted on wood panels, no painting known to be by Rembrandt uses a panel glued together in this way from several pieces of wood.

For these reasons the painting was removed from the official catalog of Rembrandt's paintings in the 1930s.

**Summarize the points made in the lecture, being sure to explain how they support/contradict specific points made in the reading passage.**

### **TASK 2**

It is more important to keep your old friends than it is to make new friends.

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