

TPO 19

READING

THE ROMAN ARMY'S IMPACT ON BRITAIN

Paragraph 1

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

A. Many Roman soldiers remained in Britain after conquering it, and their presence had a strong influence.

B. The new Roman province of Britain seemed to awaken in the first century A.D as the local economy improved.

C. Camps, fortifications, and economic change contributed to the Roman conquest of Britain.

D. With the conquest of Britain by Roman troops, the Roman Empire gained considerable economic strength.

2. According to paragraph 1, the Roman army had the most influence on those areas of Britain that were

A. conquered first

B. near population centers

C. used as military bases

D. rapidly incorporated into the empire

3. According to paragraph 1, what effect did military occupation have on the local population?

A. It encouraged more even

In the wake of the Roman Empire's conquest of Britain in the first century A.D., a large number of troops stayed in the new province, and these troops had a considerable impact on Britain with their camps, fortifications, and participation in the local economy.

Assessing the impact of the army on the civilian population starts from the realization that the soldiers were always unevenly distributed across the country. Areas rapidly incorporated into the empire were not long affected by the military. Where the army remained stationed, its presence was much more influential. The imposition of a military base involved the requisition of native lands for both the fort and the territory needed to feed and exercise the soldiers' animals. The imposition of military rule also robbed local leaders of opportunities to participate in local government, so social development was stunted and the seeds of disaffection sown. This then meant that the military had to remain to suppress rebellion and organize government.

distribution of the population and the settlement of previously undeveloped territory.

B. It created discontent and made continuing military occupation necessary.

C. It required local labor to construct forts and feed and exercise the soldiers' animals.

D. It provided local leaders with opportunities to participate in governance.

4. The word “suppress” in the passage is closest in meaning to

A. respond to

B. warn against

C. avoid the impact of

D. stop by force

Paragraph 2

5. The word “friction” in the passage is closest in meaning to

A. rebellion

B. conflict

C. neglect

D. crime

6. The author mentions “343 men at one fort engaged on tasks like shoemaking, building a bathhouse, operating kilns, digging clay, and working lead” in order to

A. describe the kinds of tasks soldiers were required to perform as punishment for disloyalty or misdeeds.

B. illustrate some of the duties assigned to soldiers to keep them busy and well-behaved when not involved in military campaigns.

C. provide evidence that Roman

Economic exchange was clearly very important as the Roman army brought with it very substantial spending power. Locally a fort had two kinds of impact. Its large population needed food and other supplies. Some of these were certainly brought from long distances, but demands were inevitably placed on the local area. Although goods could be requisitioned, they were usually paid for, and this probably stimulated changes in the local economy. When not campaigning, soldiers needed to be occupied; otherwise they represented a potentially dangerous source of friction and disloyalty. Hence a

soldiers had a negative effect on the local area by performing jobs that had been performed by native workers.

D. argue that the soldiers would have been better employed in the construction of infrastructure such as roads.

Paragraph 3

7. The phrase "entitled to" in the passage is closest in meaning to

- A. given the right to
- B. able to afford to
- C. encouraged to
- D. required to

8. According to paragraph 3, how did the soldiers meet their needs for goods and services?

- A. Their needs were met by the army, and all of their economic transactions took place within the fort.
- B. Most of their needs were met by traveling tradespeople who visited the forts.
- C. During their days off, soldiers traveled to distant towns to make purchases.
- D. They bought what they needed from the artisans and traders in nearby towns.

Paragraph 4

9. According to paragraph 4, which of the following is true of Britain's auxiliary regiments of the Roman army'?

- A. Membership in these regiments reached its highest point during the reign of the emperor Hadrian.

writing tablet dated 25 April tells of 343 men at one fort engaged on tasks like shoemaking, building a bathhouse, operating kilns, digging clay, and working lead. Such activities had a major effect on the local area, in particular with the construction of infrastructure such as roads, which improved access to remote areas.

Each soldier received his pay, but in regions without a developed economy there was initially little on which it could be spent. The pool of excess cash rapidly stimulated a thriving economy outside fort gates. Some of the demand for the services and goods was no doubt fulfilled by people drawn from far afield, but some local people certainly became entwined in this new economy. There was informal marriage with soldiers, who until AD 197 were not legally entitled to wed, and whole new communities grew up near the forts. These settlements acted like small towns, becoming centers for the artisan and trading populations.

The army also provided a means of personal advancement for auxiliary soldiers recruited from

B. Most of the units recruited in Britain were sent to Morocco and other stations outside Europe.

C. Soldiers served in the regiments for many years and after retirement generally stayed where they had been stationed.

D. Most of the regiments stationed on the frontier were new units transferred from a neighboring province.

10. According to paragraph 4, all of the following changes could be seen in the frontier garrisons by the later Roman period EXCEPT:

A. Membership in the units passed from father to son.

B. Fewer soldiers were stationed at the forts.

C. Soldiers usually were not transferred to different locations.

D. Frontier units became more effective and proficient.

Paragraph 5

11. Why does the author mention that some of the forts continued in occupation long after Rome ceased to have any formal authority in Britain"?

A. To emphasize the degree to which the stability of the British northern frontier depended on firm military control

the native peoples, as a man obtained hereditary Roman citizenship on retirement after service in an auxiliary regiment. Such units recruited on an ad hoc (as needed) basis from the area in which they were stationed, and there was evidently large-scale recruitment within Britain. The total numbers were at least 12,500 men up to the reign of the emperor Hadrian (A.D. 117-138), with a peak around A.D. 80. Although a small proportion of the total population, this perhaps had a massive local impact when a large proportion of the young men were removed from an area. Newly raised regiments were normally transferred to another province from whence it was unlikely that individual recruits would ever return. Most units raised in Britain went elsewhere on the European continent, although one is recorded in Morocco. The reverse process brought young men to Britain, where many continued to live after their 20 to 25 years of service, and this added to the cosmopolitan Roman character of the frontier population. By the later Roman period, frontier garrisons (groups of soldiers) were only rarely transferred, service in units became effectively hereditary, and forts were no longer populated or maintained at full strength.

B. To suggest that the Romans continued to occupy Britain even after they had formally given up the right to do so

C. To support the claim that forts continued to serve an important economic function even after they ceased to be of any military use

D. To describe one of the things that resulted from frontier garrisons' becoming part of the local community over a long period

12. The word 'circumstances' in the passage is closest in meaning to

- A. experiences
- B. communities
- C. conditions
- D. laws

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

One solution was to keep them busy as sources of labor.

Where would the sentence best fit?

13. The Roman army's occupation of Britain influenced and changed the local population.

Answer Choices

A. Although the presence of the army in certain areas caused resentment among the local population, it provided important services such as building infrastructure.

B. By recruiting unemployed young men for its auxiliary units, the army made it possible for them to stay in their home towns and provide financial support

This process of settling in as a community over several generations, combined with local recruitment, presumably accounts for the apparent stability of the British northern frontier in the later Roman period. It also explains why some of the forts continued in occupation long after Rome ceased to have any formal authority in Britain, at the beginning of the fifth century A.D. The circumstances that had allowed natives to become Romanized also led the self-sustaining military community of the frontier area to become effectively British.

Paragraph

2: Economic

exchange was clearly very important as the Roman army brought with it very substantial spending power. Locally a fort had two kinds of impact. Its large population needed food and other supplies. ■ Some of these were certainly brought from long distances, but demands were inevitably placed on the local area. ■ Although goods could be requisitioned, they were usually paid for, and this probably stimulated

for their families.

C. Large quantities of cash from soldiers' pay stimulated

development, but also drove up prices, making it hard for local residents to afford goods and services.

D. Though the army appropriated land and some goods, it also paid for many supplies, stimulating local economic growth.

E. The forts contributed to the quality of local crafts by bringing in artisans from distant places who brought with them new skills and techniques.

F. Roman soldiers started families with local inhabitants, and over the generations, the military community became a stable part of British society.

changes in the local economy. ■ When not campaigning, soldiers needed to be occupied; otherwise they represented a potentially dangerous source of friction and disloyalty. ■ Hence a writing tablet dated 25 April tells of 343 men at one fort engaged on tasks like shoemaking, building a bathhouse, operating kilns, digging clay, and working lead. Such activities had a major effect on the local area, in particular with the construction of infrastructure such as roads, which improved access to remote areas.

SUCCESSION,CLIMA X, AND ECOSYSTEMS

In the late nineteenth century, ecology began to grow into an independent science from its roots in natural history and plant geography. The emphasis of this new "community ecology" was on the composition and structure of communities consisting of different species. In the early twentieth century, the American ecologist Frederic Clements pointed out that a succession of plant communities would develop after a disturbance such as a volcanic eruption, heavy flood, or forest fire. An abandoned field, for instance, will be invaded successively by herbaceous plants (plants with little or no woody tissue), shrubs, and trees, eventually becoming a forest

Light-loving species are always among the first invaders, while shade-tolerant species appear later in the succession.

Paragraph 2

1. According to paragraph 2, which of the following is a criticism of Clements' "view of succession"?
 - A. The principles of succession are more lawlike than Clements thought they were.
 - B. More evidence is needed to establish Clements' predictions about succession.
 - C. The details of succession are affected by random processes.
 - D. Many of the factors that determine which plants will grow in an environment, such as the nature of the soil and the exposure to sun, do not change at all.
2. The word "substantiated" in the passage is closest in meaning to
 - A. confirmed
 - B. noticed
 - C. defined
 - D. publicized
3. The word "trend" in the passage is closest in meaning to
 - A. Probability
 - B. picture
 - C. lawlike regularity
 - D. tendency

Paragraph 3

4. The word "likewise" in the passage is closest in meaning to
 - A. sometimes
 - B. similarly
 - C. apparently
 - D. consequently

Clements and other early ecologists saw almost lawlike regularity in the order of succession, but that has not been substantiated. A general trend can be recognized, but the details are usually unpredictable. Succession is influenced by many factors: the nature of the soil, exposure to sun and wind, regularity of precipitation, chance colonizations, and many other random processes.

The final stage of a succession, called the climax by Clements and early ecologists, is likewise not predictable or of uniform composition. There is usually a good deal of turnover in species composition, even in a mature community. The nature of the climax is influenced by the same

Paragraph 4

5. The word "legitimately" in the passage is closest in meaning to
- A. commonly
 - B. broadly
 - C. properly
 - D. officially
6. According to paragraph 4, why do many authors prefer the term "association" to "community" when describing a climax plant formation?
- A. Because the term "association" does not suggest the presence of a tight network involving interactive communication.
 - B. Because the term "association" indicates that the grouping is not necessarily beneficial to all members.
 - C. Because the term "community" indicates continuing dynamic development that a climax formation does not have.
 - D. Because the term "community" suggests an organization that has been designed for a specific purpose.

Paragraph 5:

7. In paragraph 5, the author challenges the idea of a "biome" by noting that
- A. there are usually no very strong connections among the plants and animals living in a place
 - B. plants and animals respond in the same way to the same circumstances
 - C. particular combinations of flora and fauna do not generally come about purely by chance

factors that influenced succession. Nevertheless, mature natural environments are usually in equilibrium. They change relatively little through time unless the environment itself changes.

For Clements, the climax was a "superorganism," an organic entity. Even some authors who accepted the climax concept rejected Clements' characterization of it as a superorganism, and it is indeed a misleading metaphor. An ant colony may be legitimately called a superorganism because its communication system is so highly organized that the colony always works as a whole and appropriately according to the circumstances. But there is no evidence for such an interacting communicative network in a climax plant formation. Many authors prefer the term "association" to the term "community" in order to stress the looseness of the interaction.

Even less fortunate was the extension of this type of thinking to include animals as well as plants. This resulted in the "biome," a combination of coexisting flora and fauna. Though it is true that many animals are strictly associated with certain plants, it is misleading to speak of a "spruce-moose biome," for example, because there is no internal cohesion to

D. some animals are dependent on specific kinds of plants for food

8. Why does the author make the statement, "Indeed, there are vast areas of spruce forest without moose"?

- A. To highlight a fact whose significance the ecologist Herbert Gleason had missed
- B. To propose the idea that a spruce forest is by itself a superorganism
- C. To emphasize that moose are not limited to a single kind of environment
- D. To criticize the idea of a spruce-moose biome

9. The word "initiated" in the passage is closest in meaning to

- A. Approved
- B. identified
- C. started
- D. foreseen

10. According to paragraph 5, Gleason's opposition to the Clementsian views of plant ecology was based on the claim that plant species grow in places where

- A. they can enter into mutually beneficial relationships with other species
- B. conditions suit them, regardless of whether particular other species are present
- C. habitats are available for a wide variety of plant and animal species
- D. their requirements are met, and those of most other species are not

Paragraph 6:

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

their association as in an organism. The spruce community is not substantially affected by either the presence or absence of moose. Indeed, there are vast areas of spruce forest without moose.

The opposition to the Clementsian concept of plant ecology was initiated by Herbert Gleason, soon joined by various other ecologists. Their major point was that the distribution of a given species was controlled by the habitat requirements of that species and that therefore the vegetation types were a simple consequence of the ecologies of individual plant species.

With	"climax,"	"biome,"
<u>"superorganism," and various other technical terms for the association of animals and plants at a given locality</u>		
<u>being criticized, the term "ecosystem" was more and more widely adopted for</u>		

- A. Unlike the terms "climax," "biome," And "superorganism," which refer to the particular association of plants and animals at a given location, the term 'ecosystem' refers specifically to the physical factors within an environment.
- B. The terms 'climax,' 'biome,' 'superorganism,' and "ecosystem" all refer to the system of plants and animals in an associated environment, but some are more controversial than others.
- C. When the older terms of ecology became too technical, they were replaced by the more popular and more widely used term ecosystem."
- D. The term "ecosystem" gradually replaced discredited terms for the combination of a physical environment and the plants and animals living together in it.

12. According to paragraph 6, what did ecologists mainly study when the ecosystem concept was the dominant paradigm?

- A. The physical factors present in different environments.
- B. The typical activities of animals and the effect of those activities on plants.
- C. The rates at which ecosystems changed from one kind to another.
- D. The flow of energy and matter through ecosystems.

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

They may be more interested in researching, for example, the adaptations that some aquatic animals undergo to survive in dry desert

the whole system of associated organisms together with the physical factors of their environment.

Eventually, the energy-transforming role of such a system was emphasized. Ecosystems thus involve the circulation, transformation, and accumulation of energy and matter through the medium of living things and their activities. The ecologist is concerned primarily with the quantities of matter and energy that pass through a given ecosystem, and with the rates at which they do so.

Although the ecosystem concept was very popular in the 1950s and 1960s, it is no longer the dominant paradigm. Gleason's arguments against climax and biome are largely valid against ecosystems as well. Furthermore, the number of interactions is so great that they are difficult to analyze, even with the help of large computers. Finally, younger ecologists have found ecological problems involving behavior and life-history adaptations more attractive than measuring physical constants. Nevertheless, one still speaks of the ecosystem when referring to a local association of animals and plants, usually without paying much attention to the energy aspects.

Paragraph 7: Although the ecosystem concept was very popular in the 1950s and 1960s, it is no longer the dominant paradigm. ■ Gleason's arguments against

environments.

Where would the sentence best fit?

14. The study of the combination of plant species that inhabit a particular locality became a scientific discipline toward the end of the nineteenth century.

Answer Choices

- A. Areas that are recovering from serious disturbances like volcanic eruptions and heavy floods provide special opportunities to observe the development of plant communities.
- B. Whether a given species will be found in a given ecosystem strongly depends on what other species it would interact with in that ecosystem.
- C. Computer-aided studies of entire systems of associated organisms together with their environment provide a solid basis for current studies of specific ecological problems.
- D. According to the earliest theories of ecology, the development of plant communities proceeds in lawlike fashion and results in stable climax communities.
- E. The idea of associations of plants and animals that function as “superorganisms” was later rejected by biologists who saw no strong evidence in support of that idea.
- F. The once popular idea of communities as integrated ecosystems has been largely rejected by modern ecologists, who are more interested in problems involving behavior and adaptations.

climax and biome are largely valid against ecosystems as well. ■

Furthermore, the number of interactions is so great that they are difficult to analyze, even with the help of large computers. Finally, younger ecologists have found ecological problems involving behavior and life-history adaptations more attractive than measuring physical constants. ■ Nevertheless, one still speaks of the ecosystem when referring to a local association of animals and plants, usually without paying much attention to the energy aspects. ■

Discovering the Ice Ages

Paragraph 1

1. The word "accumulations" in the passage is closest in meaning to
 - A. Signs
 - B. Pieces
 - C. Types
 - D. Deposits
2. The word "heterogeneous" in the passage is closest in meaning to
 - A. Remaining
 - B. Varied
 - C. Familiar
 - D. Layered
3. According to paragraph 1, what persuaded Louis Agassiz that glaciation in the past had been widespread?
 - A. Geologic differences between mountain valleys and flat plains
 - B. The presence of similar glacial material in many different regions
 - C. Geologic research on mountain glaciers in the Alps
 - D. Evidence of regional differences in the drift caused by glacial erosion

Paragraph 2

4. The word "enjoy" in the passage is closest in meaning to
 - A. experience
 - B. resemble
 - C. expect
 - D. dominate
5. It can be inferred from paragraph 2 that Agassiz and other geologists of his time were not able to determine
 - A. which geographic regions had been covered with ice sheets in the last ice age

In the middle of the nineteenth century, Louis Agassiz, one of the first scientists to study glaciers, immigrated to the United States from Switzerland and became a professor at Harvard University, where he continued his studies in geology and other sciences. For his research, Agassiz visited many places in the northern parts of Europe and North America, from the mountains of Scandinavia and New England to the rolling hills of the American Midwest. In all these diverse regions, Agassiz saw signs of glacial erosion and sedimentation. In flat plains country, he saw moraines (accumulations of earth and loose rock that form at the edges of glaciers) that reminded him of the terminal moraines found at the end of valley glaciers in the Alps. The heterogeneous material of the drift (sand, clay, and rocks deposited there) convinced him of its glacial origin.

The areas covered by this material were so vast that the ice that deposited it must have been a continental glacier larger than Greenland or Antarctica. Eventually, Agassiz and others convinced geologists and the general public that a great continental glaciation had extended the polar ice caps far into regions that now enjoy temperate climates. For the first time, people

- B. the exact dates at which drifts had been deposited during the last ice age
- C. the exact composition of the drifts laid during the last ice age
- D. how far south along the east coast of the United States the ice had advanced during the last ice age

Paragraph 3-4:

6. According to paragraph 3, what did geologists conclude as a result of finding well-developed soils containing warm-climate plant fossils between layers of glacial drift?
- A. There had been only one warm period before the Pleistocene epoch
 - B. There had been multiple periods of mild weather between ice ages
 - C. Several glacial periods occurred after the Pleistocene epoch
 - D. Some earlier epochs were warmer than the Pleistocene
7. According to paragraphs 3 and 4, scientists modified their theory about the exact number of glaciations because of evidence obtained from
- A. ocean sediments
 - B. interglacial soils
 - C. glacial deposits
 - D. air samples

began to talk about ice ages. It was also apparent that the glaciation occurred in the relatively recent past because the drift was soft, like freshly deposited sediment. We now know the age of the glaciation accurately from radiometric dating of the carbon-14 in logs buried in the drift. The drift of the last glaciation was deposited during one of the most recent epochs of geologic time, the Pleistocene, which lasted from 1.8 million to 10,000 years ago. Along the east coast of the United States, the southernmost advance of this ice is recorded by the enormous sand and drift deposits of the terminal moraines that form Long Island and Cape Cod.

It soon became clear that there were multiple glacial ages during the Pleistocene, with warmer interglacial intervals between them. As geologists mapped glacial deposits in the late nineteenth century, they became aware that there were several layers of drift, the lower ones corresponding to earlier ice ages. Between the older layers of glacial material were well-developed soils containing fossils of warm-climate plants. These soils were evidence that the glaciers retreated as the climate warmed. By the early part of the twentieth century, scientists believed that four distinct glaciations had affected North America and Europe during the Pleistocene epoch.

8. The word “reveal” in the passage is closest in meaning to
- A. result from
 - B. vary with
 - C. show
 - D. preserve
9. According to paragraph 4, scientists use foraminifera shells to learn about Pleistocene ocean conditions by
- A. measuring the amount of calcium carbonate present in the shells
 - B. determining the proportion of shell in each layer of sediment
 - C. comparing shells deposited during the Pleistocene with those buried earlier
 - D. calculating the relative quantity of two oxygen isotopes in the calcite

Paragraph 5:

10. It can be inferred from paragraph 5 that foraminifera fossil shells containing calcite with high percentages of oxygen-16 were deposited at times when
- A. polar ice extended as far as equatorial regions of land and sea
 - B. extensive glaciation was not occurring
 - C. there were no great increases in ocean temperature
 - D. there was heavy snowfall on continental glaciers
11. In paragraph 5, why does the author include the information that the “oxygen isotope ratio of the ocean changes as a great deal of water is withdrawn from it by evaporation and is precipitated as snow to form glacial ice”?

This idea was modified in the late twentieth century, when geologists and oceanographers examining oceanic sediment found fossil evidence of warming and cooling of the oceans. Ocean sediments presented a much more complete geologic record of the Pleistocene than continental glacial deposits did. The fossils buried in Pleistocene and earlier ocean sediments were of foraminifera—small, single-celled marine organisms that secrete shells of calcium carbonate, or calcite. These shells differ in their proportion of ordinary oxygen (oxygen-16) and the heavy oxygen isotope (oxygen-18). The ratio of oxygen-16 to oxygen-18 found in the calcite of a foraminifer's shell depends on the temperature of the water in which the organism lived. Different ratios in the shells preserved in various layers of sediment reveal the temperature changes in the oceans during the Pleistocene epoch.

Isotopic analysis of shells allowed geologists to measure another glacial effect. They could trace the growth and shrinkage of continental glaciers, even in parts of the ocean where there may have been no great change in temperature—around the equator, for example. The oxygen isotope ratio of the ocean changes as a great deal of water is withdrawn from it by evaporation and is precipitated as snow to form glacial

- A. To explain how scientists were able to calculate how frequently the continental ice sheets expanded and contracted
- B. To explain how scientists have determined that there was no great change in ocean temperatures at the equator during past glaciations
- C. To provide evidence that oxygen-16 has a greater tendency to evaporate than does oxygen-18
- D. To suggest that equatorial marine organisms absorb more heavy isotopes than do marine organisms elsewhere

12. According to the passage, when did scientists begin to realize that more than one ice age had occurred'?

- A. In the mid nineteenth century
- B. In the late nineteenth century
- C. In the early twentieth century
- D. In the late twentieth century

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

In his view, there could be no other explanation for the composition of such drift

Where would the sentence best fit?

14. Louis Agassiz was the first to note signs of glacial erosion and sedimentation in diverse regions of Europe and North America.

Answer Choices

- A. Evidence of a pattern of glacier-like deposits eventually convinced most geologists that an enormous continental glacier had extended into the temperate

ice. During glaciations, the lighter oxygen-16 has a greater tendency to evaporate from the ocean surface than the heavier oxygen-18 does. Thus, more of the heavy isotope is left behind in the ocean and absorbed by marine organisms. From this analysis of marine sediments, geologists have learned that there were many shorter, more regular cycles of glaciation and deglaciation than geologists had recognized from the glacial drift of the continents alone.

Paragraph 1: In the middle of the nineteenth century, Louis Agassiz, one of the first scientists to study glaciers, immigrated to the United States from Switzerland and became a professor at Harvard University, where he continued his studies in geology and other sciences. For his research, Agassiz visited many places in the northern parts of Europe and North America, from the mountains of Scandinavia and New England to the rolling hills of the American Midwest. ■ In all these diverse

zone

B. Glacial research showed that many layers of ice were deposited, with each new period of glaciation extending farther south than the one before

C. Isotopic analysis of marine sediments showed that periods of r glaciation and deglaciation were more frequent, shorter, and more cyclic than previously thought

D. Nineteenth-century geologists came to accept the idea that the areas covered by polar ice had reached as far as the equator, a far larger area than Agassiz had thought

E. Nineteenth-century geologists studying the layers of drift concluded that during the Pleistocene epoch, several glaciations had occurred with warm periods between them

F. Research involving foraminifera fossil shells shows that ocean temperatures in the Northern Hemisphere varied greatly during the most extensive periods of glaciation

regions, Agassiz saw signs of glacial erosion and sedimentation.■ In flat plains country, he saw moraines (accumulations of earth and loose rock that form at the edges of glaciers) that reminded him of the terminal moraines found at the end of valley glaciers in the Alps. ■ The heterogeneous material of the drift (sand, clay, and rocks deposited there) convinced him of its glacial origin. ■

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LISTENING

1. Why does the man go to see the professor?
 - A. To ask for help in choosing a topic for his term paper
 - B. To ask the professor to explain how to complete an assignment
 - C. To ask about a point raised in a recent lecture
 - D. To offer to help the professor with her research project

2. Why does the professor mention male frogs that lower their voices?
 - A. To give an example of a behavior that can be predicted using game theory
 - B. To reinforce the definition of "selective adaptation"
 - C. To give an example of deceptive behavior in animals
 - D. To compare the behavior of butterflies and frogs

3. Why does the professor talk about computers?
 - A. To help the man understand game theory
 - B. To describe how biologists analyze data about adaptation
 - C. To suggest a way for the man to find information about game theory
 - D. To explain the format required for the man's term paper

4. What does the man need to do for his term paper?
 - A. Interpret the statistical data in a journal article
 - B. Summarize the information in several published studies
 - C. Discuss a current controversy in biological research
 - D. Design an experiment that uses game theory

5. The man expresses reservations about the suggested topic for his term paper. What is the professor's attitude toward the man's reservations?
 - A. She thinks the man has demonstrated the necessary background in statistics
 - B. She thinks the man should choose a topic he is more comfortable with
 - C. She thinks the man should ask another student to help him understand the statistics
 - D. She thinks the man's worries are unnecessary

6. What does the professor mainly discuss
 - A. Some characteristics that are common in several languages

- B. A way to represent languages that are genetically related.
- C. Which languages probably evolved from Proto-Indo-European
- D. Linguists' opinions about why languages change over time

7. What point does the professor make when she says that some languages have similar-sounding words?

- A. Most languages with similar-sounding words seem related but are not
- B. Eighteenth-century scholars reached an inaccurate conclusion about ancient languages
- C. There is limited information available about how ancient languages sounded.
- D. There is more than one possible explanation for similarities among languages.

8. What does the professor say was an important discovery in linguistics?

- A. Sanskrit, Greek, and Latin had the same parent language.
- B. Sanskrit, Greek, and Latin borrowed words from each other.
- C. Proto-Indo-European was not a real language
- D. Most languages have several Sister languages

9. Based on the discussion, what information can be shown on a tree model?

- A. That several languages share a common ancestor
- B. Whether a language is in the process of dying out
- C. When a certain language came into existence
- D. Why sister languages exist in the same geographical area

10. Why does the professor mention variation within a language?

- A. To reinforce a point she made about Proto-Indo-European
- B. To explain the original purpose of the tree model
- C. To point out information that the tree model does not show
- D. To explain why tree models have become overly complicated

11. What can be inferred about the professor when she says this

- A. She is not sure what causes languages to change.
- B. She does not think that languages change quickly
- C. She thinks a fact she just mentioned about language might be hard to believe.
- D. She thinks languages evolved differently in the past than they do now.

12. What is the lecture mainly about?

- A. Recent advances in technology used by astronomers
- B. How radio astronomy has led to advances in communication technology
- C. Important discoveries made by radio astronomers
- D. Difficulties astronomers have in observing the universe

13. What is the professor's attitude about light pollution in cities?

- A. He feels that it should be carefully regulated.
- B. He believes it is unfortunate
- C. He thinks astronomers have not dare enough to address the issue
- D. He believes that the severity of the problem is often exaggerated.

14. According to the professor, why are radio waves particularly useful for astronomical observations?

Click on 2 answers

- A. Some astronomical bodies emit radio waves but not visible light
- B. Radio waves provide more information about star composition than visible light waves do
- C. Radio waves can be detected with simple equipment.
- D. Radio waves can pass through particles in space

15. What does the professor imply is an advantage of optical astronomy over radio astronomy?

- A. It allows far more precise observations.
- B. It is better for making observations within our own galaxy.
- C. It requires less sophisticated equipment.
- D. It is not affected by the weather.

16. According to the professor, why do radio astronomers sometimes have difficulty studying very distant objects? Click on 2 answers

- A. Signals from closer objects interfere with radio waves from space.
- B. Particles in the atmosphere change the direction of radio waves.
- C. Radio waves from space are not very strong.
- D. Light waves from sources on Earth alter radio waves from distant objects

17. What does the professor mean when he says this

- A. He wants to emphasize the progress that has been made in radio astronomy.

- B. He thinks radio astronomy and optical astronomy both provide valuable information.
- C. He does not want to spend time discussing the technology of radio telescopes.
- D. He would like the students to give examples of discoveries made with radio telescopes.

18. What is the conversation mainly about?

- A. Changes that will be made in food choices offered to students
- B. Food-safety procedures followed by the cafeteria staff
- C. Issues related to the cafeteria's food policy
- D. Common complaints about the food served in the cafeteria

19. According to the woman, how did some students react to the change in frying oil used in the cafeteria?

- A. They said the change made the food less tasty.
- B. They said the change made the food less oily.
- C. They asked for information about the new oil.
- D. They stopped buying fried foods.

20. What does the woman imply about organically grown food? Click on 2 answers

- A. It is not always the best choice for the environment.
- B. It is more nutritious than food that is not organically grown.
- C. It is difficult to obtain from local farms regularly
- D. It is served in the cafeteria almost every day

21. According to the woman, what information can be found on the cafeteria's Web site? Click on 3 answers

- A. Requirements for food to be certified as organic
- B. Information on where the cafeteria food comes from
- C. A list of the food choices offered to students for each meal
- D. The nutritional content of specific foods

22. What does the man mean when he says this?

- A. He wants to make an appointment to talk to the woman's boss
- B. He is satisfied with the information he has received
- C. He is upset because he is being sent somewhere else.
- D. He is glad the woman has promised to address his concerns.

23. What is the lecture mainly about?

- A. The effect of the tidal flow on the salt marsh
- B. Ways that some plants have adapted to living in salt marshes
- C. The process of osmoses in plants
- D. Differences between plants that grow in salt marshes and plants that grow elsewhere

24. What is one result of reverse osmosis in the spartina?

- A. Salt from seawater strengthens the plant's cells.
- B. All parts of the plant are able to receive oxygen.
- C. Salt evaporates on the stems and leaves of the plant.
- D. Water is unable to move across the plant cell walls.

25. Why does the professor mention reddish mud on the roots of a spartina

- A. To illustrate the high density of salt-marsh soil
- B. To explain how spartina rhizomes move through the soil
- C. To point out the problems spartinas face in getting fresh water
- D. To provide evidence that oxygen is present in the spartinas roots

26. In what way are rhizomes important for spartinas?

- A. They allow plants to remain cool in direct sunlight
- B. They reduce the possibility of plants being uprooted during storms
- C. They help plants in dense soil process oxygen.
- D. They reduce the concentration of salt in the surrounding seawater.

27. What can be inferred about the process that prevents spartinas from breaking in violent storms?

- A. It is the same process that helps them survive being immersed in saltwater.
- B. The process is also responsible for causing their air tubes to form.
- C. The process sometimes damages their rhizomes.
- D. Many other plants have developed a similar process.

28. Why does the professor say this

- A. To point out an incorrect conclusion
- B. To clarify the meaning of a term

- C. To admit that there is little evidence of the phenomenon she just described
- D. To emphasize the difference between a fact and an opinion

29. What is the purpose of the discussion?

- A. To compare the portrayal of different subjects in Cecilia Beaux's portraits
- B. To examine the influence of women artists in the nineteenth century
- C. To explain how *The Dreamer* differs from Impressionist art
- D. To demonstrate how Cecilia Beaux's point of view is reflected in her art

30. What evidence does the professor cite to illustrate Cecilia Beaux's reputation as an artist? Click on 2 answers.

- A. The instructors that she studied art with
- B. Her role in professional art organizations
- C. Her connection with an important politician's family
- D. The features of her work that the Impressionists imitated

31. What do the speakers say about Cecilia Beaux's use of contrasting colors in *The Dreamer*?

- A. The technique was unusual in portraits of the period.
- B. The technique was used by an artist that she respected.
- C. Several modern artists copied the technique.
- D. The function of the technique is to unify several parts of the painting

32. What point do the speakers make about the background of *The Dreamer*?

- A. It is a good example of Beaux's unusual style of brushstroke.
- B. Resembles the backgrounds of other Beaux portraits.
- C. Its lack of clarity emphasizes the theme of the painting.
- D. It is meant to suggest that the woman is in a dark room.

33. Based on the discussion, what is the professor's attitude toward portraiture?

- A. The artist's technical skill is the most important aspect of a portrait.
- B. An artist is seldom able to create an exact likeness of a subject.
- C. A good portrait portrays the subject in an informal setting.
- D. A good portrait portrays more than a physical image.

34. Why does the professor mention the French Impressionists?
- A. To identify other artists who often painted women and children
 - B. To point out one of the influences on Cecilia Beaux's work
 - C. To question the importance of Impressionism in portraiture
 - D. To contrast their view of art with Cecilia Beaux's vision

SPEAKING

1. Talk about a skill or ability that you consider especially important for a student to have. Use details and examples to explain your answer. 【人物】

2. More and more people are buying items on the Internet and from magazines or catalogs. Other people prefer shopping in a store. Which do you prefer and why? 【prefer】

3. Fee Increase for Recreation Center Use

The university administration today announced a \$25 increase in the student fee for using the campus recreation center. The higher fee, which all students are required to pay, will provide funds to upgrade the facility and provide newer, more modern exercise equipment at the center. "We expect the improvements to increase student use of the facility," explained David Smith, director of the student activities office. Mr. Smith also noted that the decision was approved because "We feel that \$25 is a reasonable increase that will be affordable for individual students."

The man expresses her opinion about the university's plan. State his opinion and explain the reasons he gives for holding that opinion.

4. Social Learning

One way people learn is by watching the behavior of others. Sometimes called social learning, this type of learning involves the process of learning to copy---or not copy---the action of another. By observing the results, or consequences, of another's behavior, people tend to imitate the behavior of another when they see that it leads to a desirable consequence---hoping to repeat it for themselves. Of course, the opposite is also true---people tend to avoid imitating the behavior of another when they see it result in an undesirable consequence

Use the examples from the lecture to explain concept of social learning.

5. Briefly summarize the problem the speakers are discussing. Then state which solution you would recommend and explain the reasons for your recommendation.

6. Using the examples of the albatross and the fulmar, explain two special adaptations that have developed to help seabirds find food.

WRITING

TASK 1

Many consumers ignore commercial advertisements. In response, advertising companies have started using a new tactic, called "buzzing." The advertisers hire people, buzzers, who personally promote (buzz) products to people they know or meet. The key part is that the buzzers do not reveal that they are being paid to promote anything. They behave as though they were just spontaneously praising a product during normal conversation. Buzzing has generated a lot of controversy, and many critics would like to see it banned.

First, the critics complain that consumers should know whether a person praising a product is being paid to praise the product. Knowing this makes a big difference: we expect the truth from people who we believe do not have any motive for misleading us. But with buzzing what you hear is just paid advertising, which may well give a person incorrect information about the buzzed product.

Second, since buzzers pretend they are just private individuals, consumers listen to their endorsements less critically than they should. With advertisements in print or on TV, the consumer is on guard for questionable claims or empty descriptions such as "new and improved." But when consumers do not know they are being lobbied, they may accept claims they would otherwise be suspicious of. This may suit the manufacturers, but it could really harm consumers.

And worst of all is the harmful effect that buzzing is likely to have on social relationships. Once we become aware that people we meet socially may be buzzers with a hidden agenda, we will become less trustful of people in general. So buzzing will result in the spread of mistrust and the expectation of dishonesty.

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

TASK 2

In order to be well-informed, a person must get information from many different news resources.

