University of Central Florida (UCF) GEO1200 Physical Geography Practice Exam (Sample)

Study Guide

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Questions

1. Which process mainly contributes to the formation of moraines?

   A. Wind erosion

   B. Glacial movement

   C. Volcanic activity

   D. Soil compaction

2. What geological feature is formed by the tectonic uplift of land?

   A. Plain

   B. Plateau

   C. Valley

   D. Hill

3. Red soils are typically red due to high amounts of which element?

   A. Aluminum

   B. Oxides

   C. Irons

   D. Silicon

4. Which of the following rock types is the most common on earth?

   A. Metamorphic

   B. Igneous

   C. Granite

   D. Sedimentary

5. What type of igneous rocks cool rapidly on the land surface or ocean bottom?

   A. Intrusive igneous rocks

   B. Felsic igneous rocks

   C. Extrusive igneous rocks

   D. Mafic igneous rocks

6. Breaking swash is responsible for what action on the beach?

A. Carrying water back to the ocean

B. Moving sand and gravel landward

C. Creating large waves

D. Preventing coastal erosion

7. Which biome is associated with a Wet-Dry Tropical Climate Zone?

A. Savanna

B. Monsoon Forest

C. Temperate Forest

D. Tundra

8. Which layer of the earth is a solid but behaves like a liquid?

A. Core

B. Asthenosphere

C. Lithosphere

D. Crust

9. Which term refers to the natural sinking of land caused by groundwater depletion?

A. Land subsidence

B. Soil erosion

C. Land reclamation

D. Surface runoff

10. What term describes a small lake formed when a glacier carves a depression at the bottom of a cirque and then melts?

A. Tarn

B. Atoll

C. Cirque lake

D. Glacial pool

Answers

1. B
2. B
3. C
4. D
5. C
6. B
7. B
8. B
9. A
10. A

Explanations

1. Which process mainly contributes to the formation of moraines?

A. Wind erosion

B. Glacial movement

C. Volcanic activity

D. Soil compaction

Moraines are accumulations of dirt and rocks that have been carried along and deposited by glaciers. The primary process that contributes to their formation is glacial movement. As glaciers advance, they erode the landscape, picking up debris from the ground. This debris is then transported with the glacier and eventually deposited as the glacier retreats or melts. The accumulation of this material at the edges or terminus of a glacier forms what is known as a moraine. Different types of moraines exist depending on where they are located relative to the glacier. For instance, lateral moraines are found along the sides of a glacier, while terminal moraines are built up at the glacier's leading edge. The characteristics of moraines can provide insights into historical glacial movement and climatic conditions. Wind erosion, volcanic activity, and soil compaction do not play a significant role in the formation of moraines. Wind erosion involves the removal and transport of soil and rock by wind, which is a different process. Volcanic activity relates to the movement of magma and the eruption of lava, creating landforms distinct from those formed by glacial processes. Soil compaction refers to the process where soil particles are pressed together, reducing pore space and density but does not contribute to the formation

2. What geological feature is formed by the tectonic uplift of land?

A. Plain

B. Plateau

C. Valley

D. Hill

A plateau is a geological feature characterized by its elevated flat terrain, which is formed through tectonic uplift. This process occurs when tectonic plates collide or move apart, causing the land to rise. The resulting plateau is usually surrounded by steep cliffs or sides, distinguishing it from other landforms. Plateaus can be vast and extensive, often spanning hundreds or thousands of square miles, and they may host unique ecosystems and geological formations due to their height and flatness. In contrast, a plain is a broad, flat area of land that is typically low in elevation and not formed by uplift. Valleys are typically low-lying areas between hills or mountains created by erosion or deposition processes rather than uplift. Hills, while raised landforms, are usually not extensive enough to be classified as plateaus and can arise from various processes, including erosion and sediment deposition. The defining characteristic of a plateau—its extensive, elevated, and flat nature—clearly distinguishes it as the outcome of tectonic uplift, making it the correct answer in this context.

3. Red soils are typically red due to high amounts of which element?

A. Aluminum

B. Oxides

C. Irons

D. Silicon

Red soils derive their characteristic color primarily from high amounts of iron oxides present in the soil. When iron is oxidized, it forms various compounds, including ferric oxide, which gives the soil a reddish hue. This oxidation process is often enhanced in well-drained, warm environments where the soil has been subjected to significant weathering. The presence of iron oxides indicates that the soil has gone through a process of leaching, where other minerals may have been washed away, leaving behind the more stable iron compounds. This is commonly seen in tropical regions, which tend to have weathered red soils rich in iron oxides. In contrast, while aluminum can also be found in certain soils and contribute to color in a different context, it does not impart a red coloration in the same way that iron does. Silicon, another common element in soils, primarily appears in the form of silicate minerals, which typically do not produce a red color. Therefore, it is the oxides of iron specifically that are responsible for the red coloration in these soils.

4. Which of the following rock types is the most common on earth?

A. Metamorphic

B. Igneous

C. Granite

D. Sedimentary

The most common rock type on Earth is sedimentary rock. Sedimentary rocks form from the accumulation and lithification of materials such as sediments, which can include fragments of other rocks, minerals, and organic matter. As they form in layers over time, they often contain fossils and provide valuable information about past environments and life on Earth. This type of rock covers much of the Earth's surface, especially in continental areas, and is vital for understanding geological processes and history. Sedimentary formations include a range of rocks like sandstone, limestone, and shale, which collectively make up a significant portion of the Earth’s crust compared to other rock types. In contrast, while igneous rocks, which originate from cooled magma or lava, are significant, they typically comprise a smaller overall area of the Earth's surface. Granite, a specific type of intrusive igneous rock, is just one representative of igneous rocks and is not more widespread than sedimentary rocks. Metamorphic rocks, formed under heat and pressure from pre-existing rocks, also play an important role but do not dominate in terms of surface coverage compared to sedimentary types. Overall, the prevalence and formation processes of sedimentary rocks contribute to their status as the most common rock type on Earth, reflecting

5. What type of igneous rocks cool rapidly on the land surface or ocean bottom?

A. Intrusive igneous rocks

B. Felsic igneous rocks

C. Extrusive igneous rocks

D. Mafic igneous rocks

Extrusive igneous rocks are formed from magma that reaches the Earth's surface and cools quickly. This rapid cooling occurs when volcanic eruptions release molten rock, or lava, onto the land surface or beneath the ocean, where it solidifies relatively quickly due to lower temperatures and exposure to the atmosphere or water. The quick cooling process prevents the formation of large crystals, resulting in fine-grained textures typical of extrusive igneous rocks, such as basalt and rhyolite. These rocks often exhibit features like volcanic glass or small visible crystals, which contrast with rocks that cool slowly underground, allowing for the growth of larger crystals. Therefore, extrusive igneous rocks are specifically recognized for their rapid cooling characteristics and the locations where they arise, such as volcanic islands or lava flows.

6. Breaking swash is responsible for what action on the beach?

A. Carrying water back to the ocean

B. Moving sand and gravel landward

C. Creating large waves

D. Preventing coastal erosion

The breaking swash is the movement of water that occurs when waves crash onto the shore, creating a rush of water that moves up the beach. This process plays a crucial role in the transport of materials such as sand and gravel. As the breaking swash reaches the shore, it can carry sand and gravel landward. This action contributes to the formation of coastal features and beach profiles. The landward movement of sediment helps to shape the beach environment, facilitating the development and maintenance of dunes and providing habitats for various organisms. In contrast, the other answer choices do not accurately reflect the primary function of breaking swash. While swash does result in the return flow of water to the ocean after it has moved landward, its principal role is sediment transport. The swash does not create large waves; those are the result of wind and other factors prior to breaking. Similarly, while swash can have a role in mitigating erosion by depositing sediments, it is not primarily associated with preventing coastal erosion in the way that structures or specific protective measures might. Therefore, the choice of moving sand and gravel landward accurately encapsulates the action of breaking swash on a beach.

7. Which biome is associated with a Wet-Dry Tropical Climate Zone?

A. Savanna

B. Monsoon Forest

C. Temperate Forest

D. Tundra

The biome associated with a Wet-Dry Tropical Climate Zone is the Monsoon Forest. This climate type is characterized by distinct wet and dry seasons, with relatively high temperatures throughout the year. In regions that experience this climate, the pronounced seasonal rainfall impacts the vegetation patterns significantly. Monsoon forests, also known as tropical deciduous forests, are adapted to these conditions by shedding their leaves during the dry season to conserve water. They typically have a mix of trees, shrubs, and grassland, which demonstrates resilience to the seasonal changes in moisture availability. This adaptation is essential for survival in the face of alternating periods of abundance and scarcity of rainfall. The other options represent biomes that do not align with the characteristics of a Wet-Dry Tropical Climate. For example, savannas are grasslands that also experience seasonal rainfall but are distinct in their ecosystem composition and don't have the same forest structure. Temperate forests occur in areas with more consistent rainfall and cooler temperatures. Tundra is a cold biome located in polar regions, which is not related to the warm, tropical conditions of Wet-Dry climates. Thus, the Monsoon Forest uniquely fits the criteria associated with the Wet-Dry Tropical Climate Zone.

8. Which layer of the earth is a solid but behaves like a liquid?

A. Core

B. Asthenosphere

C. Lithosphere

D. Crust

The asthenosphere is the correct answer because it is a layer of the Earth's upper mantle that is characterized by its ability to flow and deform over geological time despite being composed of solid rock. This layer exists beneath the lithosphere and extends from about 100 kilometers to 700 kilometers below the surface. The unique properties of the asthenosphere allow it to accommodate the movements of tectonic plates on the Earth's surface. Although it is solid, the temperature and pressure conditions are sufficient to enable the solid material to exhibit plasticity, meaning it can flow slowly like a viscous liquid over long periods. This flow is crucial for processes such as mantle convection, which plays a significant role in plate tectonics. In contrast, the core is primarily composed of iron and nickel and is mostly liquid in the outer core and solid in the inner core. The lithosphere is a rigid layer that includes the crust and the uppermost mantle, while the crust is the Earth's outermost layer that is also solid but does not exhibit the same liquid-like characteristics of the asthenosphere.

9. Which term refers to the natural sinking of land caused by groundwater depletion?

A. Land subsidence

B. Soil erosion

C. Land reclamation

D. Surface runoff

The term that refers to the natural sinking of land caused by groundwater depletion is land subsidence. This phenomenon occurs when the support that underground water provides to the soil is removed, often through excessive pumping of groundwater for agricultural, industrial, or domestic uses. As water is extracted, the pore spaces in the soil and rock formations compress, leading to a gradual sinking or settling of the ground surface. This process can result in significant impacts on infrastructure, ecosystems, and water drainage patterns, highlighting the importance of sustainable groundwater management. In contrast, soil erosion involves the displacement of the upper layer of soil and is typically caused by natural elements like wind and water, as well as human activities. Land reclamation refers to the process of creating new land from oceans, riverbeds, or lake beds, which is unrelated to the sinking of land. Surface runoff is the flow of water, resulting from rain or melting snow, which does not directly involve the subsidence of land. Each of these terms relates to different processes in physical geography, but land subsidence specifically describes the sinking of land due to water withdrawal.

10. What term describes a small lake formed when a glacier carves a depression at the bottom of a cirque and then melts?

A. Tarn

B. Atoll

C. Cirque lake

D. Glacial pool

A tarn is specifically used to describe a small lake that forms in a depression carved by a glacier, typically found in a cirque. During the process of glacial erosion, the glacier carves out a bowl-shaped hollow, and when it melts, water collects in this depression, creating a tarn. This term is distinct and accurate as it highlights the glacial origin of the lake and its specific geographic context. In contrast, an atoll refers to a ring-shaped coral reef island and is unrelated to glacial processes. A cirque lake is not a formal term commonly used in geography, although it describes a similar formation; however, it lacks the precision of the term tarn. A glacial pool is more of a general descriptor and does not specifically refer to the particular characteristics associated with a tarn. Thus, tarn is the most appropriate term for this specific glacial feature.