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38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

DANTES Eligible Military Service Member (DSST)

SN303

Introduction to Geology

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for DANTES Eligible Military Service Member (DSST) SN303 , each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, SN303
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1

MULTIPLE CHOICE

Which of the following are classified as divergent plate boundaries? (Choose two.)

- ☒ **A** Mid-ocean ridges where new oceanic lithosphere is created
- ☒ **B** Continental rift zones where a continent is splitting apart
- ☐ **C** Subduction zones where one plate descends beneath another
- ☐ **D** Transform faults where plates slide horizontally past each other

ANSWER A - B

WHY Divergent plate boundaries are locations where plates move away from each other. Mid-ocean ridges (such as the Mid-Atlantic Ridge) and continental rift zones (such as the East African Rift) are both classic examples of divergent boundaries. Subduction zones are convergent boundaries, and transform faults (such as the San Andreas Fault) are a separate category.

QUESTION 2

MULTIPLE CHOICE

Which of the following are processes of mechanical (physical) weathering? (Choose two.)

- ☒ **A** Frost wedging caused by the freezing and thawing of water in rock cracks
- ☐ **B** Dissolution of limestone by slightly acidic rainwater
- ☒ **C** Abrasion of rock surfaces by wind-carried sand particles
- ☐ **D** Hydrolysis of feldspar minerals to form clay minerals

ANSWER A - C

WHY Mechanical weathering breaks rock into smaller pieces without changing its chemical composition. Frost wedging and abrasion by wind-borne sediment are classic mechanical weathering processes. Dissolution and hydrolysis are chemical weathering processes, which alter the mineral composition of the rock.

QUESTION 3

SINGLE CHOICE

Which mineral is the most abundant component of sand on many of the world's beaches?

- ☐ A Calcite
- ☐ B Gypsum
- ☒ C Quartz
- ☐ D Mica

ANSWER C

WHY Quartz is the most abundant component of beach sand on many of the world's coastlines because it is highly resistant to both chemical and physical weathering, allowing it to survive the rigors of erosion, transport, and deposition.

QUESTION 4

SINGLE CHOICE

Which rock type is formed from the cooling and solidification of magma or lava?

- ☐ A Sedimentary
- ☒ B Igneous
- ☐ C Metamorphic
- ☐ D Limestone

ANSWER B

WHY Igneous rocks form from the cooling and solidification of magma (intrusive igneous rocks) or lava (extrusive igneous rocks). Sedimentary rocks form from the lithification of sediment, metamorphic rocks form from the alteration of pre-existing rocks by heat and pressure, and limestone is a specific type of sedimentary rock.

QUESTION 5

SINGLE CHOICE

In the geologic time scale, what is the smallest unit of geologic time?

- ☐ A Era
- ☐ B Period
- ☐ C Epoch
- ☒ D Age

ANSWER D

WHY The geologic time scale is hierarchically divided from largest to smallest as: eon, era, period, epoch, and age. The age (also called a chronostratigraphic stage) is the smallest formally recognized unit of geologic time.

QUESTION 6

SINGLE CHOICE

The point within the Earth where an earthquake originates is called the:

- ☐ A Epicenter
- ☒ B Focus (hypocenter)
- ☐ C Seismograph
- ☐ D Magnitude

ANSWER B

WHY The focus, or hypocenter, is the actual location beneath the Earth's surface where an earthquake originates and energy is first released. The epicenter is the point on the Earth's surface directly above the focus. A seismograph is the instrument that records earthquakes, and magnitude is a measure of the energy released.

QUESTION 7

SINGLE CHOICE

Volcanoes that form above subduction zones typically produce which type of magma?

- ☐ A Mafic (basaltic) magma with low silica content and low viscosity
- ☒ B Felsic (rhyolitic) magma with high silica content and high viscosity
- ☐ C Ultramafic magma with very low silica content and very high temperature
- ☐ D Carbonatite magma composed primarily of carbonate minerals

ANSWER B

WHY Volcanoes associated with subduction zones typically produce felsic (rhyolitic) or intermediate (andesitic) magma with relatively high silica content. The high silica content makes the magma viscous, which traps gases and leads to explosive volcanic eruptions. Mafic magma is characteristic of mid-ocean ridges and hotspot volcanoes like those in Hawaii, while ultramafic and carbonatite magmas are rare and found in unusual tectonic settings.

QUESTION 8

SINGLE CHOICE

Which agent of erosion is primarily responsible for the formation of U-shaped valleys in mountainous regions?

- ☐ A River erosion
- ☐ B Wind erosion
- ☒ C Glacial erosion
- ☐ D Wave erosion

ANSWER C

WHY U-shaped (or trough) valleys are characteristic landforms carved by alpine glaciers. As glaciers flow through pre-existing V-shaped river valleys, they widen and deepen them through erosion, producing the distinctive U-shaped cross-section. Rivers typically erode V-shaped valleys.

QUESTION 9

SINGLE CHOICE

Which type of fossil is best suited for correlating rock layers of similar age between widely separated geographic areas?

- ☐ A Trace fossils such as footprints and burrows
- ☒ B Index fossils from organisms that were widespread but existed for short periods of geologic time
- ☐ C Plant fossils preserved in coal beds
- ☐ D Microfossils found only in deep-sea sediment

ANSWER B

WHY Index fossils, also known as guide fossils, come from organisms that lived over wide geographic areas but for relatively short periods of geologic time. These characteristics make them ideal for correlating (matching) rock layers of similar age across different regions. Trace fossils can be useful for indicating behavior but are generally less precise for correlation, while plant fossils in coal beds and microfossils in deep-sea sediment are too restricted in their occurrence to serve as broad correlation tools.