EOSC QUIZES- HYESEON SOHN

<FRAGILE SYSTEM>

1.

By doing work against gravity to lift a book from your desk and set it on a higher shelf, you INCREASE \_\_\_\_\_\_.

Student Response Value

A. potential energy 100%

B. kinetic energy

C. sensible heat

D. latent heat

E. power

Score: 1/1

2.

In developed countries such as Canada where population levels are increasing, we can expect economic losses due to natural disasters to \_\_\_\_\_\_.

Student Response Value

A. remain near zero

B. increase significantly 100%

C. remain nearly constant

D. decrease exponentially

E. remain steady at about $80 billion per year

Score: 1/1

3.

For most disaster scales, a disaster of magnitude 6 has \_\_\_\_\_\_\_ times greater energy than a disaster of magnitude 2.

Student Response Value

A. 3

B. 4

C. 5

D. 10,000 100%

E. 1,000,000

Score: 1/1

4.

If you double the force applied on an object, the amount of work \_\_\_\_\_\_

Student Response Value

A. quarters

B. halves

C. remains constant

D. doubles 100%

E. quadruples

Score: 1/1

5.

Sulfur is a component of \_\_\_\_\_.

Student Response Value

A. silica

B. calcite

C. pyrite 100%

D. magnetite

E. quartz

Score: 1/1

ABDDC

1.

The layering of less-dense materials on top of more-dense materials is called \_\_\_\_\_\_.

Student Response Value

A. layerification

B. calcification

C. ionization

D. fracturization

E. stratification 100%

Score: 1/1

2.

If the mass of a moving object doubles, its kinetic energy changes by what factor?

Student Response Value

A. 1/4

B. 1/2

C. 1

D. 2 100%

E. 4

Score: 1/1

3.

Which statement is TRUE?

Student Response Value

A. There is no limit to the population that the world can hold.

B. As population grows, larger percentages of the population can be protected from natural disasters.

C. The Earth is a fragile system.

D. Savage competition for resources will diminish as population grows.

E. As population increases, the cost of loss of transportation, communication, and utilities due to natural disasters will increase significantly. 100%

Score: 1/1

4.

Which of the following statements is FALSE?

Student Response Value

A. The estimated ages of the Earth and the oceans is the same order of magnitude.

B. More intense natural disasters occur more frequently. 100%

C. The average depth of the ocean is much shallower than the thickness of the Earth’s atmosphere.

D. A chemical element consists of identical atoms.

E. No work is expended against gravity when a 10 kg mass is moved 5 meters horizontally (assuming a frictionless surface).

Score: 1/1

5.

Sulfur is a component of \_\_\_\_\_.

Student Response Value

A. silica

B. calcite

C. pyrite 100%

D. magnetite

E. quartz

Score: 1/1

EDEBC

1.

Most disaster scales are logarithmic; namely, each increase by 1 of the scale value corresponds to roughly a ten-fold increase in the strength of the disaster. The main reason for using this type of disaster scale is \_\_\_\_\_\_.

Student Response Correct Answer

A. most disasters vary by many orders of magnitude

B. it is more confusing to the general public, thus strengthening the egos of scientists

C. the more intense disasters happen less frequently

D. the logarithmic values are smaller and more compact, thus easier to store in computer-file archives

E. the risk (i.e., threat to life) is related to both the disaster strength and its return period

Score: 1/1

2.

The three greatest chemical elemental components of the Earth’s crust are \_\_\_\_\_.

Student Response Correct Answer

A. nitrogen, oxygen, hydrogen

B. oxygen, silicon, aluminum

C. silicon, iron, calcium

D. aluminum, carbon, sodium

E. silicon, magnesium, iron

Score: 1/1

3.

When you raise an object twice as high, the potential energy increases by a factor of \_\_\_\_\_\_\_.

Student Response Correct Answer

A. a half

B. one

C. two

D. four

E. an order of magnitude

Score: 1/1

4.

The top layer of the earth is called the\_\_\_\_\_\_\_.

Student Response Correct Answer

A. mesosphere

B. asthenosphere

C. mantle

D. core

E. crust

Score: 1/1

5.

Why are many disaster intensities quantified using a logarithmic scale?

Student Response Correct Answer

A. More intense disasters happen less frequently than weaker disasters.

B. Earthquakes are more powerful than tornadoes.

C. Scientists like to confuse the public by using complicated disaster scales.

D. Disaster intensities vary by many orders of magnitude.

E. Many disasters are cyclic.

Score: 1/1

6.

Which disaster is related to the dilution of energy?

Student Response Correct Answer

1. earthquakes

2. thunderstorms

3. volcanoes

4. hurricanes

5. floods

Score: 1/1

7.

In terms of population growth, the phrase "doubling time" refers to \_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. two times the annual growth rate

B. linear growth

C. 70 years

D. period of time for the population to increase by 2 percent

E. period of time required to double the present population

Score: 1/1

8.

During a 300-day period, 900 earthquakes of magnitude 5 are typically observed. Thus, the return period for a magnitude 5 earthquake is \_\_\_\_\_\_\_.

Student Response Correct Answer

A. 900 years

B. 300 years

C. 5 years

D. 3 days

E. 1/3 of a day

Score: 1/1

9.

Which of the following best describes the world’s population since 1900?

Student Response Correct Answer

A. growth trends with periods of rapid decline followed by sudden bursts of growth

B. constant world population for the last 100 years

C. linear growth pattern

D. rapid growth consisting of adding the same number of individuals each year

E. growth in ever-increasing increments (e.g., 2 percent annual growth)

Score: 1/1

10.

The form of energy common to all the natural disasters to be studied in this course is \_\_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. impending energy

B. stress

C. kinetic energy

D. work

E. potential energy

Score: 1/1

11.

Every year, more people are affected by natural disasters MOSTLY because \_\_\_\_\_\_.

Student Response Correct Answer

A. sea level is rising, putting large coastal cities at risk

B. of global warming

C. as population increases, more people live in high risk areas

D. the ozone hole allows more visible light to reach the earth's surface

E. natural disasters occur more frequently and of greater intensity

Score: 1/1

12.

When water vapour condenses, latent heat \_\_\_\_\_\_.

Student Response Correct Answer

A. is released as sensible heat

B. doesn't change

C. is known as the latent heat of sublimation

D. is absorbed from sensible heat

E. is known as the latent heat of fusion

Score: 1/1

13.

Wave frequency has units of\_\_\_\_\_\_\_.

Student Response Correct Answer

A. m

B. m/s

C. Hz

D. s

E. Pa

Score: 1/1

14.

The speed at which wave energy propagates is called the \_\_\_\_\_\_ speed.

Student Response Correct Answer

A. phase

B. translation

C. flow

D. kinetic

E. group

Score: 1/1

15.

Which statement is CORRECT?

Student Response Correct Answer

A. Stress is a force per unit area.

B. Power is energy x time.

C. Pressure per unit time is force.

D. Force is quantified in newtons per square meter.

E. Energy is power times distance.

Score: 1/1

16.

The distance 35,000 km is equal to \_\_\_\_\_\_.

Student Response Correct Answer

A. 3.5 x 107 m

B. 0.035 x 109 cm

C. 35 x 106 mm

D. 3.5 x 104 m

E. 3.5 kkm

Score: 1/1

17.

Turbulence \_\_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. has regular oscillations

B. is easily predictable

C. cannot transport matter

D. rarely occurs in the atmosphere

E. can transport energy

Score: 1/1

18.

Consider Object A with a mass of 10 kg and Object B with a mass of 20 kg, both moving at a speed of 1 m / sec. Which of the following statements is TRUE?

Student Response Correct Answer

A. The kinetic energy of Object B is equal to the kinetic energy of Object A.

B. The kinetic energy of Object B is 2X the kinetic energy of Object A.

C. The kinetic energy of Object A is 2X the kinetic energy of Object B.

D. The kinetic energy of Object A is 5 kg-m / sec.

E. The kinetic energy of Object B is 20 kg-m2 / sec2.

Score: 1/1

19.

The amount of heat that 1 kg of matter holds when it warms 1 degree Celsius is called \_\_\_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. latent heat

B. relative heat

C. absolute heat

D. specific heat

Score: 1/1

20.

The normal crystal shape for ice is \_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. pentagonal

B. cubic

C. tetrahedral

D. octahedral

E. hexagonal

Score: 1/1

ABCED EEEEC CACEA AEBEE

<VOLCANOES>

1.

Mafic lavas have \_\_\_\_\_\_.

Student Response Correct Answer

A. high silica content and temperature between 1200-1400 °C

B. low silica content and temperature between 1200-1400 °C

C. intermediate silica content and temperature between 1000-1200 °C

D. low silica content and temperature between 600-1000 °C

E. intermediate silica content and temperature between 600-1000 °C

Score: 1/1

2.

An eruption with high viscosity, low volatile content, and moderate volume will produce \_\_\_\_\_\_.

Student Response Correct Answer

A. pumice fall

B. pyroclastic flow

C. rhyolite flow or dome

D. lahar

E. scoria

Score: 0/1

3.

Magma rises in the crust PRIMARILY due to differences in \_\_\_\_\_\_.

Student Response Correct Answer

A. density

B. water content

C. tephra content

D. gas content

E. temperature

Score: 1/1

4.

What are the two basic requirements for lahars?

Student Response Correct Answer

A. water and lava

B. glaciers and ice

C. steep slopes and volcanic bombs

D. tephra and water

E. rivers and glaciers

Score: 1/1

5.

The 2 primary gases found in magmas and lavas are \_\_\_\_\_\_.

Student Response Correct Answer

A. water vapour and carbon monoxide

B. carbon dioxide and hydrochloric acid

C. hydrochloric acid and carbon monoxide.

D. water vapour and carbon dioxide.

E. water vapour and hydrochloric acid

Score: 1/1

6.

The three most abundant elements in the crust are \_\_\_\_\_\_.

Student Response Correct Answer

A. Si, Ca, and Fe

B. O, Si, and Ca

C. O, Mg, and Fe

D. Si, Al, and O

E. Al, Na, and O

Score: 1/1

7.

A nearby volcano is erupting pyroclastic flows. Where would you be safest?

Student Response Correct Answer

A. on the upper floor of a two-story steel-frame building

B. in a swimming pool

C. on a ridge top

D. on the upper floor of a two-story wood building

E. in a river valley

Score: 1/1

8.

What is the effect of hydrothermal alteration on a volcano?

Student Response Correct Answer

A. Gas seepage increases.

B. Alteration to clay minerals weakens the volcanic edifice.

C. Pyroclastic material becomes welded together and strengthens with time.

D. Mudflows form after dome eruptions.

E. Hot springs increase toxic gas emissions.

Score: 1/1

9.

Which of the following is the LEAST likely location for a volcano?

Student Response Correct Answer

A. hot spots

B. above mantle plumes

C. transform plate boundaries

D. divergent plate boundaries

E. convergent plate boundaries

Score: 1/1

10.

Which of the following is TRUE about acoustic flow monitors (AFMs)?

Student Response Correct Answer

A. AFMs detect lahars when laser beams are interrupted by its passing; this sends a warning signal back to a base station.

B. AFMs are only useful at detecting lahars when they are accompanied by a major volcanic eruption.

C. The best way to deploy AFMs is to mount them under aircraft.

D. AFMs are like seismometers except that they sense higher frequency vibrations.

E. AFM use is now superseded by the use of sensors that detect the gases given off by passing lahars.

Score: 1/1

11.

An eruption of a very large volume of magma with high viscosity and high volatile content will produce what volcanic landform?

Student Response Correct Answer

A. pyroclastic flow

B. composite volcano

C. volcanic dome

D. flood basalt plateau

E. caldera

Score: 0/1

12.

The MOST COMMON direct cause of deaths from volcanic activity is/are \_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. pyroclastic flows

B. tsunami

C. lahars

D. ash inhalation

E. asphyxiation by gas

Score: 1/1

13.

Volcanic activity at Yellowstone National Park in the USA is caused by the \_\_\_\_\_\_ tectonic setting.

Student Response Correct Answer

A. continental rift

B. transform

C. hot spot

D. convergent margin

E. divergent margin

Score: 1/1

14.

An igneous rock with a coarse-grained interlocking texture of crystals is called \_\_\_\_\_\_.

Student Response Correct Answer

A. pyroclastic

B. extrusive

C. volcanic

D. obsidian

E. intrusive

Score: 1/1

15.

The number of fatalities from volcanic eruptions has increased steadily over the past 200 years because \_\_\_\_\_\_.

Student Response Correct Answer

A. the number of eruptions has increased

B. eruption prediction has been complicated by the use of complex technologies such as GPS and InSAR

C. the world’s population has increased exponentially and people are forced to live closer to volcanoes

D. many volcanologists differ on how and when to evacuate towns and cities prior to an eruption

E. eruptions are becoming more explosive and violent because of global warming

Score: 1/1

16.

According to the textbook, when Mt. Vesuvius erupted, people in Pompeii were buried by \_\_\_\_\_\_.

Student Response Correct Answer

A. pyroclastic flows

B. lahars

C. domes

D. lava flows

E. a lateral blast

Score: 1/1

17.

Arrange the following lava types in order of DECREASING viscosity.

[-----] HIGH viscosity

[-----]

[-----] LOW viscosity

Student Response Correct Answer

Arrange the following lava types in order of DECREASING viscosity.

[felsic] HIGH viscosity

[intermediate]

[mafic] LOW viscosity Arrange the following lava types in order of DECREASING viscosity.

[felsic] HIGH viscosity

[intermediate]

[mafic] LOW viscosity (100.0%)

Score: 1/1

18.

\_\_\_\_\_\_\_\_\_ is a volcanic landform composed of unconsolidated pyroclastic material with small amounts of lava and usually no more than 10-100’s of meters high.

Student Response Correct Answer

A. stratovolcano

B. shield volcano

C. lava dome

D. cinder cone

E. caldera

Score: 0/1

19.

Which is NOT used to predict volcanic eruptions?

Student Response Correct Answer

A. growth of a lava dome

B. location, frequency, and type of earthquakes in the vicinity of a volcano

C. observed changes in volcanic gas content from satellites

D. measurements of ultraviolet light which is a proxy for volcanic gas emissions

E. observations of large-scale melting of snow and ice on the flanks of a volcano

Score: 0/1

20.

Which statement is TRUE?

Student Response Correct Answer

A. Obsidian results from quick cooling of tiny pieces of magma as they are thrown into the atmosphere.

B. The primary difference between a'a and pahoehoe lava is their silica content.

C. The major volcanic gasses are H2O and CO2.

D. Lava cools at the Earth’s surface to form rocks with a coarse-grained interlocking texture.

E. Lapilli is made of very large pyroclastic material formed when frothy magma fragments.

Score: 1/1

BCADD DCBCD EACEC A(felsic, intermediate, mafic)DC(A/C)

<EARTHQUAKES>

1.

The Himalayas formed along what type of tectonic plate boundary?

Student Response Value

A. extensional

B. divergent

C. convergent 100%

D. strike-slip

E. transform

Score: 1/1

2.

At a collisional plate boundary, \_\_\_\_\_ faults are common.

Student Response Value

A. right-lateral

B. transform

C. normal

D. strike-slip

E. thrust (reverse) 100%

Score: 1/1

3.

Based on the map of SW British Columbia below, we can conclude that earthquake intensity in Richmond is likely higher than that in Vancouver because\_\_\_\_\_\_\_.

Student Response Value

A. the majority of buildings in Richmond have not been retrofitted to withstand earthquakes

B. Richmond is closer to the main subduction thrust

C. the majority of buildings in Richmond are wood frame

D. the majority of buildings in Vancouver are concrete

E. Richmond is underlain by less consolidated rock 100%

Score: 1/1

4.

At a transform plate boundary \_\_\_\_\_\_.

Student Response Value

A. tensional stress builds up and produces a strike slip fault

B. shear stress builds up and produces a reverse fault

C. tensional stress builds up and produces a reverse fault

D. tensional stress builds up and produces a normal fault

E. shear stress builds up and produces a strike slip fault 100%

Score: 1/1

5.

Earthquake P-waves that have traveled by the fastest route through the body of the Earth are not picked up in the shadow zone because \_\_\_\_\_\_\_.

Student Response Value

A. they are trapped, by internal reflection, in the asthenosphere

B. the outer core material allows the waves to speed up, hence refracted

C. the outer core material allows the waves to slow down, hence refracted 100%

D. they travel at very high velocities through the inner core

E. they travel at very high velocities through the mantle

Score: 1/1

CEEEC

1.

The Himalayas formed along what type of tectonic plate boundary?

Student Response Value

A. extensional

B. divergent

C. convergent 100%

D. strike-slip

E. transform

Score: 1/1

2.

You have just heard that a large earthquake occurred 320 kilometres below the surface of the Earth at a spreading zone. Why should you be skeptical?

Student Response Value

A. No earthquakes ever occur in spreading zones.

B. Earthquakes only occur at less then 15 km depth.

C. Only small earthquakes occur below 200km depth.

D. Spreading zones are more likely to have shallow, weak earthquakes. 100%

E. Seismic energy can never escape a soft spreading zone where rocks are deforming plastically.

Score: 1/1

3.

Stresses change when an earthquake happens. This can increase the risk in some areas near the fault because \_\_\_\_\_\_.

Student Response Value

A. fault segments that did break are now more free to move vertically and horizontally

B. stresses relieved by the fault can now cause shaking elsewhere

C. earthquakes don’t relieve stress, they cause it

D. stresses suddenly increase in locked segments near the ends of the zone that slipped 100%

E. liquefaction of ground only occurs as a result of changes in stress

Score: 1/1

4.

Evidence that rocks can deform plastically can be found \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Student Response Value

A. only by scientific presumption because the process takes so long to occur

B. as cracks and fissures in the ground or in cliff faces and road-cuts

C. when a seismometer records the motion of a seismic wave passing

D. only in the desert where there is no vegetation to cover the visible rock

E. in the curves and bends of the layers seen in some mountain ranges 100%

Score: 1/1

5.

Which is most likely to damage a building?

Student Response Value

A. Vertical ground motion causing the building to move up and down at its resonant frequency.

B. Vertical ground motion causing the building to move up and down more rapidly than its resonant frequency.

C. Horizontal ground motion causing the building to move side to side at its resonant frequency. 100%

D. Horizontal ground motion causing the building to move side to side more rapidly than its resonant frequency.

E. A vertical jolt, followed by a horizontal jolt, caused by a passing seismic wave.

Score: 1/1

CDDEC

1.

Earthquake moment magnitude calculation is based on three of the following four quantities. Which is NOT part of this calculation?

Student Response Correct Answer

A. The shear wave amplitude.

B. The shear strength of the rocks.

C. The rupture area of the fault.

D. The average displacement (slip) on the fault.

Score: 1/1

2.

Where would you be safest in the event of a magnitude 9 Cascadia earthquake?

Student Response Correct Answer

A. in an apartment on the top floor of a 15-story apartment building in Richmond

B. in an older 4-story brick building near UBC

C. on Lion’s Gate Bridge

D. in a 5 story building that is touching the neighbouring 10 story building

E. in a one-story house in North Vancouver

Score: 1/1

3.

Which type of wave contains the lowest frequencies?

Student Response Correct Answer

A. S wave

B. P wave

C. Q wave

D. Rayleigh wave

E. body wave

Score: 1/1

4.

The Himalayan mountains are an example of uplift due to\_\_\_\_\_\_\_.

Student Response Correct Answer

A. the collision of two oceanic plates

B. the subduction of an oceanic plate beneath a continental plate

C. the subduction of a continental plate beneath an oceanic plate

D. the collision of two continental plates

E. the divergence of India from Central Asia

Score: 1/1

5.

Stresses change when an earthquake happens. This can increase the risk in some areas near the fault because \_\_\_\_\_\_.

Student Response Correct Answer

A. fault segments that did break are now more free to move vertically and horizontally

B. stresses relieved by the fault can now cause shaking elsewhere

C. earthquakes don’t relieve stress, they cause it

D. stresses suddenly increase in locked segments near the ends of the zone that slipped

E. liquefaction of ground only occurs as a result of changes in stress

Score: 1/1

6.

Soil liquefaction occurs when \_\_\_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. the strength of soft ground is increased by the shaking of grains so that they settle into a stronger configuration

B. earth dams are broken because of ground shaking, thus flooding or "liquefying" areas downstream of the dam

C. ground shaking causes saturated loosely packed soil grains to lose strength and behave as a fluid

D. earthquake motion releases water from faults

E. shifts in the ocean floor cause large waves in the ocean

Score: 1/1

7.

Which of the statements below BEST describes the relationship between building height and earthquake frequency?

Student Response Correct Answer

A. Shorter buildings collapse more easily in a lower frequency earthquake and higher buildings collapse more easily in a higher frequency earthquake.

B. Both high and short buildings collapse easily in low frequency earthquakes.

C. Shorter buildings collapse more easily in a high frequency earthquake and higher buildings collapse more easily in a low frequency earthquake.

D. No relationship exists between building height and earthquake frequency.

E. High and low frequency earthquakes do not affect buildings in dry sand.

Score: 1/1

8.

The Pacific Plate is moving steadily across the globe at a rate of a few centimeters per year in what direction?

Student Response Correct Answer

A. south-westwards towards the Australian Plate

B. southwards towards the Antarctic plate

C. south-eastwards towards the Nazca plate (South America)

D. north-eastwards towards North America

E. north-westwards towards Alaska, Kamchatca and Japan

Score: 1/1

9.

The so-called "New Madrid" earthquakes that occur in the central US near the states of Missouri, Arkansas, Kentucky and Tennessee are MOST LIKELY due to \_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. an ancient, buried subduction zone

B. slipping at the top of a subducting plate

C. ancient volcanoes in the area

D. plate activity along the Mississippi transform zone

E. fault motion associated with an ancient, buried, divergent boundary

Score: 1/1

10.

Although recent earthquakes that occurred south of Seattle, Washington (Feb 2001), in Kobe, Japan (1995) and at Bam, Iran (2003) were of similar magnitude, the Seattle earthquake did NOT cause as much devastation because \_\_\_\_\_.

Student Response Correct Answer

A. fewer people lived in the region

B. its hypocentre was much deeper than the other earthquakes

C. the ground around Seattle was not so dangerously soft

D. there were more warnings issued, allowing people to prepare themselves

E. of the time of day when it occurred

Score: 1/1

11.

Which recent earthquake is MOST similar to the mega-earthquake that is predicted to occur along the Cascadia subduction zone?

Student Response Correct Answer

A. 2003 Bam, Iran

B. 2004 Parkfield, California

C. 2004 Sumatra, Indonesia

D. 1999 Izmit, Turkey

E. 2001 Pacific Northwest

Score: 1/1

12.

When we refer to "plates", we are talking about the \_\_\_\_\_\_.

Student Response Correct Answer

A. cold, low density lithosphere

B. cold, low density crust

C. hot, high density lithosphere

D. hot, high density asthenosphere

E. hot, low density asthenosphere

Score: 1/1

13.

Which of the following CORRECTLY describe how faults rupture?

Student Response Correct Answer

A. Maximum slip occurs at the hypocenter.

B. The amount of slip is uniform along the rupture surface.

C. Maximum fault slip occurs at the epicenter.

D. The amount of slip along a fault is not measurable.

E. The greatest amount of slip can occur some distance from the hypocentre.

Score: 0/1

14.

Regarding the Cascadia subduction zone, which one of the following is TRUE?

Student Response Correct Answer

A. The timing of the next major Cascadia earthquake can be predicted to within a month.

B. Relative motion at this strike-slip fault is on the order of a few metres per year.

C. A huge earthquake occurred at this subduction zone at 9:00 PM local time on January 26, 1700.

D. In this region, the Nazca Plate is subducting under the North American Plate. The most recent catastrophic earthquake in the Cascadia region was measured with various seismometers in global networks to be Mw=9.0.

E. The most recent catastrophic earthquake in the Cascadia region was measured using global seismometer networks to be Mw = 9.0.

Score: 1/1

15.

The primary cause of earthquake-related deaths in modern times is from \_\_\_\_\_\_.

Student Response Correct Answer

A. falling into the cracks that form when faults open

B. being crushed by collapsing buildings

C. drowning in liquefied soils

D. becoming asphyxiated in dust created by all the shaking and falling buildings

E. being shaken at their resonant frequency

Score: 1/1

16.

The figure below shows a typical seismogram. What do A, B, and C represent?

Student Response Correct Answer

A. A = S-wave arrival; B = P-wave arrival; C = reverberation start

B. A = surface wave arrival; B = S-wave arrival; C = P-wave arrival

C. A = time of the earthquake; B = building resonance start; C = building destruction

D. A = P-wave arrival; B = S-wave arrival; C = surface wave arrival

E. A = surface wave arrival; B = S-wave arrival; C = P-wave arrival

Score: 1/1

17.

When earthquake scientists poll residents of a city struck by an earthquake, what are they trying to figure out?

Student Response Correct Answer

A. Richter magnitude

B. intensity

C. anisotropy

D. rupture directionality

E. hypocenter depth

Score: 1/1

18.

The runways at Vancouver airport, located in Richmond on the Fraser River delta, might be damaged by liquefaction in a big earthquake because the airport is built on \_\_\_\_\_\_. (Refer to map of SW BC below).

Student Response Correct Answer

A. saturated, fractured rock

B. dry, unconsolidated sediments

C. saturated, unconsolidated sediments

D. saturated, solid rock

E. dry, fractured rock

Score: 1/1

19.

The magnitude of an earthquake is calculated using estimates of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. local ground type and distance to the hypocenter

B. distance to the hypocenter and duration of shaking

C. duration of shaking and seismic wave amplitude

D. seismic wave amplitude and distance to the hypocenter

E. intensity and duration of shaking

Score: 1/1

20.

The "moment magnitude" is found by multiplying \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. rock strength, fault depth, and slip distance

B. rock strength, slip distance, and fault area

C. fault depth, slip distance, and fault area

D. rock strength, time of shaking, and fault length

E. fault length, fault area, and fault depth

Score: 1/1

AEDDD CCEEB CAECB DBCDB

<LANDSLIDES>

1.

Which of the following is NOT a way to trigger landslides?

Student Response Correct Answer

A. excavation

B. loud noises

C. climate change

D. heavy rainfall

E. earthquakes

Score: 1/1

2.

In the factor of safety calculation, increasing pore pressures act to destabilize the slope by \_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. adding weight to the slope

B. decreasing frictional strength

C. decreasing the cohesive strength

D. increasing the driving force

E. decreasing the driving shear forces

Score: 1/1

3.

Trigger frequency is \_\_\_\_\_\_.

Student Response Correct Answer

A. the speed of a sturzstrom

B. how often landslides occur

C. the period of time between earthquakes

D. how often an event occurs that sets off a landslide

E. the prevalence of heavy rain in a landslide-prone region

Score: 1/1

4.

Most landslides on record in this province are located in southern British Columbia because \_\_\_\_.

Student Response Correct Answer

A. southern B.C. has steeper slopes than the rest of the province

B. landslides are uncommon in northern B.C.

C. southern B.C. receives more precipitation than the rest of the province

D. southern B.C. is more at risk from landslides associated with subduction zone earthquakes

E. the population density is much higher in southern B.C. and so landslides are considered natural disasters

Score: 0/1

5.

Which is TRUE about translational slides?

Student Response Correct Answer

A. They are also called debris flows.

B. They commonly form a series of topographic benches.

C. Failure occurs along well-defined, planar, and inclined surfaces.

D. Blocks of material incorporated in the landslide are commonly rotated and tilted in the upslope direction.

E. They can be readily identified by crescent-shaped scarps on hill slopes.

Score: 1/1

6.

What is the MOST important function of water in a debris flow?

Student Response Correct Answer

A. freeze/thaw within rock fractures initiates a debris flow

B. water is quite dense and adds weight to the flow

C. a fully saturated debris flow is able to flow like a fluid

D. trees are more easily added to the flow if they are wet

E. water molecules hold the particles of the flow together

Score: 1/1

7.

You are asked to recommend appropriate landslide mitigation techniques for use in an arid area composed of highly fractured granite. Which of the following techniques should NOT be included in your proposal?

Student Response Correct Answer

A. build retaining walls

B. reinforce slide mass with rock bolts

C. spray slide mass with shotcrete

D. drain water from interior of the slide mass

E. grade the slope

Score: 1/1

8.

Suppose you are a geological engineer retained to deal with rockfall problems along new sections of the Sea-to-Sky Highway (Highway 99). You need to prevent smaller rock blocks from falling onto the road. Which approach to mitigation would you take?

Student Response Correct Answer

A. Prevention through rock bolts and anchors.

B. Avoidance by closing the highway and selecting an alternative route.

C. Protection by installing netting.

D. Protection by planting trees.

E. Prevention by installing drains.

Score: 1/1

9.

Which statement is FALSE?

Student Response Correct Answer

A. Landslides occur when the resisting mass exceeds the driving mass.

B. Landslides are more likely to occur in mountainous areas with abundant precipitation and exposed soil.

C. Faster moving landslides generate more fatalities.

D. "Landslide" is a general term that includes mass wasting events moving at a range of velocities.

E. Globally, landslide fatalities are typically underestimated as many fatalities are associated with the landslide trigger (earthquakes, floods, etc.) and not the landslide.

Score: 1/1

10.

The NUMBER ONE underlying cause of landslides is \_\_\_\_\_\_\_\_\_\_.

Student Response Correct Answer

A. global warming

B. rock composition

C. amount of precipitation

D. gravity

E. vegetation

Score: 0/1

11.

Which of the following is FALSE about creep?

Student Response Correct Answer

A. Creep occurs slowly.

B. Creep can happen on flat surfaces.

C. Freezing and thawing of surface soil can cause creep.

D. Wetting and drying of surface soil can cause creep.

E. Creep can result in tilted telephone poles and curved tree trunks.

Score: 1/1

12.

In the diagram (to the right) of forces on a hill slope, which letter refers to the shear stress?

Student Response Correct Answer

A.

B.

C.

D.

E.

Score: 1/1

13.

Which of the following geologic materials has the HIGHEST shear strength?

Student Response Correct Answer

A. clay

B. soil

C. intrusive igneous rock

D. unconsolidated sand

E. saturated unconsolidated sand

Score: 1/1

14.

Which of the following may DECREASE the shear strength of unconsolidated sediment?

Student Response Correct Answer

A. increased cementation

B. increased pore pressure

C. decreased surface tension of water

D. decreased electrostatic forces

E. increased compaction and dewatering

Score: 1/1

15.

Which of the following did NOT contribute to the Frank slide in the Eastern Rocky Mountains?

Student Response Correct Answer

A. dissolution cavities in bedrock

B. weak, fractured, and faulted bedrock

C. bedding planes of sedimentary bedrock parallel to the slope

D. wet weather in years preceding the slide

E. removal of vegetation above the slide

Score: 1/1

16.

The following sentence BEST describes which type of mass movement?

"A cohesive mass of material moves along a flat surface of failure."

Student Response Correct Answer

A. rotational slide

B. flow

C. rock slide

D. fall

E. complex movement

Score: 1/1

17.

Which of the following is NOT a factor that increases cliff erosion at UBC?

Student Response Correct Answer

A. tides

B. wave action

C. precipitation

D. revegetation

E. stormwater runoff

Score: 1/1

18.

An unstable slope may be stabilized by \_\_\_\_\_.

Student Response Correct Answer

A. securing the slope with rock bolts

B. steepening the slope

C. adding a protective layer of small to medium-sized rocks

D. allowing water to flow over and infiltrate the slope

E. removing material from the toe of the slope

Score: 1/1

19.

Which landslide type may cause a significant amount of damage, while posing a low threat to life?

Student Response Correct Answer

A. creep

B. debris flow

C. quick clay flow

D. rock fall

E. massive rock avalanche

Score: 1/1

20.

Quick clays often lead to what type of landslide?

Student Response Correct Answer

A. rotational slides

B. translational slides

C. spreads

D. flows

E. topples

Score: 1/1

CBDEC C(B/D)CAD BDCBE CD(A/C)AC

<STORMS>

1.

Warm air rises because of \_\_\_.

Student Response Value

A. inertia

B. continuity

C. buoyancy 100%

D. precipitation drag

E. vorticity

Score: 1/1

2.

Arc clouds are caused by \_\_\_\_.

Student Response Value

A. downbursts

B. updrafts

C. downdrafts

D. gustfronts 100%

E. tornados

Score: 1/1

3.

The clouds at location [i] in this figure is/are called \_\_\_\_\_\_\_\_\_\_ clouds.

Student Response Value

A. anvil

B. wall

C. flanking line

D. funnel

E. mammatus 100%

Score: 1/1

4.

In visible-light weather satellite images, thunderstorms are recognizable by their \_\_\_\_.

Student Response Value

A. well-defined eye

B. wave-like appearance

C. tops casting shadows on the ground

D. lightning causing the whole cloud to glow during the daytime

E. thunder that creates sound waves that propagate to the satellite 0%

Score: 0/1

5.

Which statement is FALSE?

Student Response Value

A. Air molecules tend to spread themselves smoothly and evenly – an effect called continuity.

B. The continuity effect tends to cause closed circulations.

C. The continuity effect couples together vertical and horizontal motions.

D. Boundary-layer air converges horizontally under thunderstorm updrafts due to continuity.

E. Air in the anvil converges horizontally above thunderstorm updrafts due to continuity. 100%

Score: 1/1

CDE?E

1.

A dry air parcel at 2 km altitude with a temperature of 10 °C lifts 2 km further. Its new temperature will be \_\_\_\_\_\_.

Student Response Value

A. -10 °C 100%

B. 5 °C

C. 10 °C

D. -5 °C

E. 0 °C

Score: 1/1

2.

The flat top of a thunderstorm is called a/an \_\_\_\_\_\_.

Student Response Value

A. wall cloud

B. mushroom cloud

C. beavers tail

D. flanking line

E. anvil cloud 100%

Score: 1/1

3.

In North America, thunderstorms and lightning occur most frequently in or near \_\_\_\_\_\_\_\_\_\_.

Student Response Value

A. British Columbia

B. Alberta

C. Oklahoma 0%

D. Ontario

E. Florida

Score: 0/1

4.

The change of water phase from vapour to solid (ice) is called \_\_\_\_\_\_\_\_\_.

Student Response Value

A. sublimation

B. condensation

C. freezing

D. deposition 100%

E. melting

Score: 1/1

5.

Which humidity variable is conserved when an air parcel rises (assuming no rain)?

Student Response Value

A. vapour pressure

B. relative humidity

C. dew point temperature

D. water vapour

E. mixing ratio 100%

Score: 1/1

AE?DE

1.

A relative humidity of 75% means \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. that 75% of the air is water vapour

B. the air could hold 75% water vapour

C. the air is holding 75% of the water it could hold 100%

D. the air is holding 25% of the water it could hold

E. the air is holding 75 kg water vapour/kg air

Score: 1/1

2.

Pressure gradients form because \_\_\_\_.

Student Response Value Correct Answer

A. warm air takes up less space than cold air at the same pressure

B. warm air and cold air lose pressure at the same rate with increasing altitude

C. warm air loses pressure more slowly than cold air with increasing altitude 100%

D. warm air is more dense than cold air

E. cold air does not move as energetically as warm air

Score: 1/1

3.

A safe place to be during a lightning storm is \_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. in a car 100%

B. under a tree

C. on a ridge top

D. on the golf course

E. under an umbrella

Score: 1/1

4.

If the air temperature and dew-point temperature are 15 °C, then the height of the lifting condensation level (LCL) is \_\_\_\_\_\_

Student Response Value Correct Answer

A. 0 km 100%

B. 0.2 km

C. 2 km

D. 11 km

E. 20 km

Score: 1/1

5.

Which statement is TRUE?

Student Response Value Correct Answer

A. Instruments that measure humidity are called hydrometers.

B. The dew-point temperature is the temperature where water vapour forms when you cool air at constant pressure.

C. Saturated air has a relative humidity of 0%.

D. Dust particles in air can serve as cloud condensation nuclei. 100%

E. Thunderstorms always form along cold fronts.

Score: 1/1

6.

If condensation of water vapour in clouds did NOT release any latent heat, then \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. thunderstorms would not occur because there would be no condensation to make cloud droplets 0%

B. thunderstorms would not occur because rising air cools at the adiabatic rate of 9.8 °C/km

C. thunderstorms would occur and be less powerful because rising air would be less buoyant

D. thunderstorms would occur and be more powerful because no latent heat would be lost from the storm

E. there would be no change in thunderstorms

Score: 0/1

7.

The dew point temperature describes \_\_\_\_.

Student Response Value Correct Answer

A. the temperature of dew that is formed by saturated air

B. the temperature at which cooling air will become unsaturated

C. the temperature at which water vapour will condense out of the air 100%

D. the temperature of supersaturated air

E. the temperature cloud condensation nuclei must reach before they can condense

Score: 1/1

8.

Which is FALSE regarding storm longevity?

Student Response Value Correct Answer

A. Hurricanes manipulate their environment to create more boundary-layer fuel.

B. Ocean surface temperatures must be greater than about 26 °C to allow hurricanes to persist.

C. Hurricanes quickly die over land, mostly due to the increased frictional drag at the ground.

D. Supercell storms generally last longer than other thunderstorms due to favourable wind shear. 0%

E. Storm propagation is where a mother storm can trigger a daughter storm with its gust front.

Score: 0/1

9.

To calculate the mixing ratio \_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. divide the mass of water vapour by the mass of all remaining gases. 100%

B. multiply the mass of water vapour by the mass of all remaining gases.

C. divide the actual amount of water vapour in air by the maximum amount that could be held.

D. multiply the actual amount of water vapour in air by the maximum amount that could be held.

E. divide the mass of water vapour by the mass of air.

Score: 1/1

10.

Clouds that form along the leading edge of gust fronts are called \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. altocumulus clouds

B. anvils

C. funnel clouds

D. mammatus clouds

E. arc clouds 100%

Score: 1/1

11.

The exhaust of air from the top of the hurricane occurs because \_\_\_\_\_\_.

Student Response Value Correct Answer

A. the buoyancy force between the core at the top of the hurricane and the surrounding cold air pushes air outward away from the warm core

B. the pressure gradient force between the warm core at the top of the hurricane and the surrounding cold air pushes air outward from the core 100%

C. warm air always rises

D. as air gets closer to the eye, strong winds push the warm column of air up through the core

E. warm air is more dense than cold air

Score: 1/1

12.

The ring of thunderstorms around the eye of a hurricane is called the \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. spiral ring

B. storm surge

C. eye ring

D. eye band

E. eye wall 100%

Score: 1/1

13.

Which of the following does NOT help to strengthen hurricanes?

Student Response Value Correct Answer

A. warm ocean water > 26 °C

B. a large pressure gradient between the eye and the outer part of the storm

C. ocean spray from waves increasing the humidity near the centre of the storm

D. mixing of colder deep ocean water with surface water by strong waves 100%

E. condensation of water within the eye wall

Score: 1/1

14.

When a tornado warning is issued in your town, the safest plan of action is \_\_\_\_\_\_.

Student Response Value Correct Answer

A. to continue normal activities and monitor emergency announcements on news or weather radio 0%

B. if in a car, park underneath a bridge or overpass

C. if in a car, drive away from the tornado perpendicular to the direction it is moving

D. if indoors, find shelter at the highest level of a house such as an attic

E. if outdoors, take shelter under a tree

Score: 0/1

15.

Which statement is FALSE?

Student Response Value Correct Answer

A. Newton’s law says that a net force causes objects to accelerate.

B. Buoyancy force causes warm air to rise, and is important in thunderstorms.

C. Pressure-gradient force causes air to accelerate horizontally, thus creates winds. 0%

D. Acceleration is the change of velocity with time.

E. Pressure gradient is the perpendicular force per unit area.

Score: 0/1

16.

Which factor does NOT contribute to why hurricanes are long lived?

Student Response Value Correct Answer

A. the core is warm

B. there is divergence of air aloft

C. hurricanes create waves and spray

D. deep ocean water is cold 100%

E. there is convergence of air in the boundary layer

Score: 1/1

17.

Thunderstorm cells have all updraft (no downdrafts, no rain) in the \_\_\_ stage of their life cycle.

Student Response Value Correct Answer

A. cirrus

B. mature

C. stratus

D. dissipating

E. cumulus 100%

Score: 1/1

18.

Which statement is FALSE?

Student Response Value Correct Answer

A. Rotating thunderstorms are called mesocyclones.

B. Violent thunderstorms are called supercell storms.

C. The flat bottom of a thunderstorm is the anvil. 100%

D. Most thunderstorms are multicell thunderstorms.

E. Thunderstorm cells go through a cycle of evolution.

Score: 1/1

19.

If twice as much liquid water evaporates, then \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer

A. 4 times as much sensible heat is hidden as latent heat

B. 2 times as much sensible heat is hidden as latent heat 100%

C. there is no change to latent heat

D. 2 times as much sensible heat is released from latent heat

E. 4 times as much sensible heat is released from latent heat

Score: 1/1

20.

Hurricanes can last up to 2 weeks because \_\_\_\_\_\_.

Student Response Value Correct Answer

A. of strong Coriolis effect and warm sea surface temperatures

B. water has a very high capacity to absorb heat

C. high wind shear and the cold ocean produce boundary layer air that is cold and moist

D. large amounts of sensible and latent heat become available when wind-generated ocean waves enhance evaporation 100%

E. hurricanes always travel from the Southwest to the Northeast

Score: 1/1

CCAAD CCCAE BEDCE DECBD

<TSUNAMI>

1.

Seiche can occur in all of the following places EXCEPT \_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. Hilo Bay, Hawaii

B. Lake Tahoe

C. reservoirs

D. western Pacific Ocean 100%

E. your coffee cup

Score: 1/1

2.

Waves in the ocean typically have \_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. 200 km/hour wave speeds

B. 10 – 15 m wave heights

C. 2 to 3 second periods

D. 8 m significant wave heights

E. 60 – 150 m wavelengths 100%

Score: 1/1

3.

Longshore drift is \_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. the transport of sediment along the shoreline 100%

B. the zone of loose particles covering part or all of the shore

C. the straightening of the shoreline by wave action

D. water brought up by waves at an angle to the shoreline

E. water returned to the sea perpendicular to the shore

Score: 1/1

4.

To calculate wave speed while on a ship in the middle of the ocean, the most practical wave parameter to measure is

Student Response Value Correct Answer Feedback

A. wavelength

B. period 100%

C. distance

D. height

E. amplitude

Score: 1/1

5.

If you were the captain of a submarine, to what minimum depth would you submerge your vessel in order to avoid the effects of waves with wavelengths of 200 m?

Student Response Value Correct Answer Feedback

A. 5 m

B. 10 m

C. 30 m

D. 50 m

E. 100 m 100%

Score: 1/1

6.

Storm surges are \_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. associated with the onshore arrival of a powerful hurricane

B. generated from capillary waves

C. an abrupt bulge of water driven ashore by currents 0%

D. rarely cause extensive damage to coastal towns

E. produced when 2 different wave trains interfere

Score: 0/1

7.

Surging breakers occur \_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. on mudflats

B. on beaches with very steep slopes 100%

C. on flat, sandy beaches

D. on sandy beaches with average slopes

E. where the local wind is offshore

Score: 1/1

8.

Following a tsunami warning after an earthquake off the coast of Alaska, one of the worst places to be is \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. on the 5th floor (or higher) of a reinforced concrete building on a beach in Japan

B. on a sailboat off the coast of Halifax, NS

C. lying on a beach in Hilo Bay, Hawaii 100%

D. on a submarine on the surface of the Pacific Ocean, where the water is at least 3500 meters deep

E. in a park located beyond the tsunami inundation zone

Score: 1/1

9.

As waves approach shallow depths, \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. they transport more energy

B. they move at minimum speed

C. they bend and focus their energy on headlands

D. they flatten out and disappear

E. they break and become surf at the same distance from shore 0%

Score: 0/1

10.

"INTERFERENCE" in wind waves can cause \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. a storm surge

B. every third wave to be larger or smaller than those preceding or following

C. no effect; the waves are at maximum height

D. waves to approach shore

E. an occasional wave greater than any noted before or after its occurrence 100%

Score: 1/1

11.

Fetch is \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. moving sediment from a beach to a deep submarine canyon

B. the depth at which waves "feel" the bottom

C. distance over which wind blows without any significant change in direction 100%

D. a group of waves of the same wavelength

E. a smooth undulation of the ocean surface

Score: 1/1

12.

When waves shoal, all of the following occur EXCEPT \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. wave height increases

B. wave period decreases 100%

C. wavelength shortens

D. the wave steepens

E. wave speed decreases

Score: 1/1

13.

Why are tsunami difficult to detect in the open ocean? Choose the BEST reason.

Student Response Value Correct Answer Feedback

A. Tsunami have very long wavelengths and small heights in the open ocean, so changes in the sea surface are very small. 100%

B. Tsunami move at speeds similar to jet planes, so they go by too fast.

C. The technology available can only detect tsunami heights greater than 1 meter in the open ocean.

D. We don’t yet have any technology that can detect tsunami in the open ocean.

E. Tsunami usually have only 3-7 wave crests in a row, so are only evident in a small area at any one time.

Score: 1/1

14.

The San Andreas Fault extends offshore under water in some sections to the north of San Francisco. Imagine that a magnitude 8.5 earthquake occurs along an underwater section of the fault. Is it likely or unlikely to generate a large tsunami?

Student Response Value Correct Answer Feedback

A. It is likely because most underwater earthquakes generate tsunami.

B. It is unlikely because the fault is still too close to shore.

C. It is likely because the magnitude of the earthquake is large. 0%

D. It is unlikely because the movement along the fault is horizontal.

E. It is likely because earthquakes along the San Andreas fault are typically shallow.

Score: 0/1

15.

If a wave with a wavelength of 100 m travels in a body of water 2 km deep, water particles at a depth of 70 m will \_\_\_\_.

Student Response Value Correct Answer Feedback

A. move rapidly toward the shore

B. not be affected by the passing wave 100%

C. move in orbits that are 1/23rd of the orbits of water particles in the surface

D. trace circular orbits

E. move in flattened ellipses

Score: 1/1

16.

Which of the following mitigation strategies DISSIPATES OR SCATTERS WAVE ENERGY while allowing sediment transport?

Student Response Value Correct Answer Feedback

A. seawalls

B. groins

C. tethered-float breakwaters 100%

D. solid breakwaters

E. jetties

Score: 1/1

17.

Based on the diagram above, the wave height is represented by line \_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. A

B. B

C. C

D. D 100%

E. E

Score: 1/1

18.

While on a sailboat in the Strait of Georgia where the depth is 20 meters, you observe approaching wave crests that are 500 meters apart. You know that \_\_\_\_\_\_\_\_\_\_.

Student Response Value Correct Answer Feedback

A. the wave crests should be rounded and smooth

B. the Strait should be full of white caps and light foam

C. the waves are slowing down

D. the wave crests are flattening out 0%

E. the longshore drift is in the direction of the waves

Score: 0/1

19.

For a given rise in sea level, the shoreline in low-lying areas typically moves horizontally inland at a rate about \_\_\_\_\_\_ times the vertical sea level rise.

Student Response Value Correct Answer Feedback

A. 5

B. 10

C. 100

D. 500

E. 1000 100%

Score: 1/1

20.

Imagine four waves with different wave periods: wave A has a period of 2 seconds, wave B has a period of 5 seconds, wave C has a period of 7 seconds, and wave D has a period of 10 seconds. Knowing that the water is 4000 meters deep, arrange the waves according to their wave speed.

Student Response Value Correct Answer Feedback

A. A < B < C < D 100%

B. D < C < B < A

C. A=B < C < D

D. A=B=C=D

E. A < B < C=D

Score: 1/1

DEABE ABCCE CBADB CDCEA