EOSC 114 FINAL EXAMPLE BASED ON 2016 EXAMS

REMINDER OF EXAM POLICY:

1. Each student must be prepared to produce, upon request, a UBC card for identification.
2. Students suspected of any of the following, or similar, dishonest practices shall be immediately dismissed from the examination and shall be liable to disciplinary action:
   - having at the place of writing any books, papers or memoranda, calculators, computers, sound or image players/recorders/transmitters (including telephones), or other memory aid devices, other than those authorized by the examiners;
   - speaking or communicating with other candidates;
   - purposely exposing written papers to the view of other candidates or imaging devices.

   The plea of accident or forgetfulness shall not be received.
3. Students must hand in all midterm materials.

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http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,41,90,0

PLEASE NOTE – Answer keys are not provided, because that makes you less likely to learn from them. The reason is that students who memorize answers to past exams usually earn lower grades than those who study the subject material. We want you to learn the material.

1) Which of the following disasters **CANNOT** be caused by one of the other disasters we studied this term?
   A) Earthquakes B) Landslides C) Tsunami
   D) Storms E) Meteorite impacts

2) Which of the following is **NOT** something that you need in your disaster kit?
   A) Portable shelter B) Food and water for at least 3 days C) Mobile phone
   D) First aid kit E) Any medicine you take regularly

3) How much larger is a disaster of magnitude 8 than a disaster of magnitude 4 if they are measured on an order of magnitude scale?
   A) 3 B) 100 C) 256 D) 1000 E) 10000

4) In general, larger disasters are _____ than smaller disasters.
   A) more frequent B) less frequent C) less deadly
   D) more likely E) less expensive

5) Which of the following is **NOT** a reason humans might have an unreasonable fear of a disaster?
   A) Personal experience and loss
   B) Understanding the risk and hazard
   C) Media exposure
   D) Phobia
   E) Many people being killed or injured at once

6) World population growth has been growing linearly in recent years. Why is this important for disasters?
   A) The events that cause disasters are getting more frequent and more people will be injured by them.
   B) More people are living in the path of disasters.
   C) More people will help us develop ways to stop disasters like earthquakes and volcanoes.
   D) The number of disasters is directly related to world population.
   E) The more people who know about disasters, the more likely we will be able to have the resources to stop them.

7) Which of the following prefixes represents the largest value?
   A) kilo B) mega C) pico D) tera E) nano

8) In which of the following disasters is the force of gravity important?
   A) Landslides B) Earthquakes C) Volcanoes
   D) Tsunami E) All of the above

9) Disasters follow the law of conservation of energy. Why?
   A) Disasters neither create nor destroy energy, they concentrate or dilute it.
   B) Disasters create energy at a constant rate, concentrating it.
   C) Disasters destroy energy at a constant rate, diluting it.
   D) The concentration of energy is not important for disasters.
   E) The dilution of energy is not important for disasters.

10) A material that is very fluid and very compressible at room temperature is called a:
   A) Solid B) Liquid C) Gas
   D) Plasma E) Bose Einstein Condensate

11) The main difference between risk and hazard is:
A) A hazard is something that will definitely hurt you, a risk is only the chance of harm.
B) A hazard is something that will potentially hurt you, a risk is the chance something will.
C) A hazard is a weakness that can be exploited to hurt you, a risk is the chance something will.
D) A hazard is the chance something will hurt you, a risk is a potential harm.
E) Hazard and risk mean basically the same thing.

12) If 5 landslides of velocity class 7 occur in a specific valley every 500 years, what is the return period?
A) 35 B) 100 C) 500 D) 700 E) 3500

13) A wave with a wavelength of 100 meters is a deep water wave at a minimum water depth of _____ metres.
A) 5 B) 10 C) 50 D) 70 E) 100

14) Consider 4 waves with different wavelengths (L) passing through water with a depth of 0.5 m. wave A: L = 10 m; wave B: L = 20 m; wave C: L = 40 m; wave D: L = 60 m. Which of the following correctly describes the relationship between their wave speeds?
A) D > C > B > A
B) A > B > C > D
C) D = C = B = A
D) D > C > B = A
E) D = C > B = A

15) Constructive interference of wind generated waves can cause _____.
A) a storm surge
B) a tsunami
C) no effect; the waves are at maximum height
D) a seiche
E) an occasional monster wave greater than any noted before or after its occurrence

16) A seiche generated by a landslide into Lake Ontario would have a resonance period _____ a seiche in your friends' hot tub.
A) shorter than
B) longer than
C) the same length as
D) more regular than
E) less regular than

17) When a large earthquake occurs in the seafloor, people want to know whether or not it generated a tsunami, and therefore whether or not evacuation is needed. What measurements can we collect with **TODAY'S** technology that would directly help determine whether a tsunami is on its way, before it arrives?
A) earthquake magnitude and location
B) pressure changes in the deep ocean
C) displacement along the fault that ruptured
D) sea level heights observed from ships
E) sea level heights observed from airplanes

18) For an earthquake-generated tsunami, which of the following can we be **MOST** confident about predicting before the tsunami arrives?
A) wave height B) arrival time C) wave energy
D) destruction potential E) number of large waves

19) There are more tsunami in the Pacific Ocean because _____.
A) it is a semi-enclosed ocean
B) the trenches are deepest there
C) the fetch is longest, thus waves can travel farthest
D) there is more seismic activity around it
E) it is a shallow ocean

20) The tremendous killing power of tsunami is due mostly to _____.
A) the earthquake that generated the tsunami
B) a large mass of water causing destruction as it rushes inland and retreats back to the ocean
C) waves with towering wave heights that crash on buildings
D) the storm surge approaching shore with destructive force
E) the rapid approach of several waves, usually within seconds of each other

21) In the northern hemisphere, in which part of the hurricane is the storm surge the **MOST** disastrous for the coastline?
A) To the west of the eye of the hurricane.
B) To the north of the eye of the hurricane.
C) Directly under the eye of the hurricane.
D) On the left side of the hurricane (if you're facing in the direction the hurricane is traveling).
E) On the right side of the hurricane (if you're facing in the direction the hurricane is traveling).

22) Which statement is **FALSE**? At Kitsilano Beach, _____.
A) perfect pipeline (plunging) surf do not happen because the water is cold
B) as a wave approaches shore, the motion of water particles is affected by friction with the ocean bottom
C) longer waves become shallow water waves farther offshore than shorter waves
D) waves form whitecaps when their crests are unstable
E) there is a small, gentle spilling breaker, because the seafloor slope is almost flat

23) Longshore drift occurs when _____.
A) wave fronts approach the shoreline at an angle
B) wave fronts hit the shore parallel to the shoreline
C) waves hit rocky cliffs and erode material
D) high energy waves carry sand offshore and deposit it in sandbars
E) groins trap sand that has been moved by waves

24) Which storm hazard can hurt or kill you?
A) lightning B) tornado C) hail D) flooding E) all of the above

25) What feature do almost all cumulonimbus clouds have that makes them easily recognizable as a thunderstorm?
A) mesocyclone B) wall cloud C) anvil D) mammatus E) haboob

26) The main source of energy for thunderstorms is _____.
A) geothermal B) solar C) wave D) gravitational E) wind

27) Which type of supercell is known to produce a lot of hail?
A) low-precipitation B) classic C) high precipitation D) squall line E) hailiotropic

28) Downbursts are caused by _____.
A) tilting of tornadic rotation
B) sporadic descent of the thunderstorm cloud base
C) fast jet-stream winds aloft that are tilted down by falling hail
D) evaporation of precipitation falling through dry air
E) updrafts that hit the tropopause and bounce off, in order to conserve air mass

29) Which is the correct order of horizontal size, from largest to smallest?
A) Wall cloud, hurricane, tornado, thunderstorm, hailstone.
B) Hailstone, tornado, wall cloud, thunderstorm, hurricane.
C) Thunderstorm, hurricane, wall cloud, hailstone, tornado.
D) Tornado, hailstone, wall cloud, hurricane, thunderstorm.
E) Hurricane, thunderstorm, wall cloud, tornado, hailstone.

30) Which statement is **TRUE**?
A) Wall clouds rotate too slowly to be seen by eye.
B) Mesocyclone rotation can be seen by eye.
C) Tornado rotation is too slow to be seen by eye.
D) Hurricane rotation can be seen in satellite loops.
E) Gust fronts extend outward like spokes of a wheel.

31) The hurricane/typhoon/tropical-cyclone eye _____.
A) has the strongest updraft compared to other parts of the hurricane
B) has the most precipitation compared to other parts of the hurricane
C) has calmer winds and clearer skies compared to other parts of the hurricane
D) is a nearly circular band of thunderstorms
E) causes the greatest destruction compared to other parts of the hurricane

32) What is a necessary condition for hurricane/typhoon/tropical-cyclone formation and existence?
A) Warm sea-surface temperature.
B) Cold deep-sea water temperature.
C) Latitude at the equator.
D) Strong wind shear in the pre-storm environment.
E) Location over the Pacific Ocean.

33) A typical lifetime for average hurricanes is roughly_____.
A) 1 to 2 hours B) 1 to 2 days C) 1 to 2 weeks
D) 1 to 2 months E) 1 to 2 years

34) Hurricanes/typhoons/tropical-cyclones create their own fuel by _____.
A) absorbing sunlight at the top of the storm
B) the merging of mesocyclones from supercell thunderstorms
C) tapping in to the gyres of rotating currents in the ocean
D) utilizing the radioactive decay found in natural elements in sea water
E) ocean-wave breaking that evaporates sea spray into the air

35) For Western Canada, hurricane/typhoon/tropical-cyclone season usually reaches its peak in:
A) late Winter B) late Spring C) late Summer D) late Fall E) never

36) In a continental-oceanic convergent boundary why is the oceanic crust always subducted?
A) It is much more dense than the mantle rock.
B) It is much less dense than the continental crust.
C) It is much more dense than the continental crust.
D) It is moving faster than the continental crust.
E) The oceanic crust is never subducted.

37) At a convergent margin, what conditions are most likely to result in an earthquake?
A) Plastic deformation under the influence of tensional forces.
B) Brittle deformation under the influence of compressional forces.
C) Elastic deformation under the influence of shearing forces.
D) Elastic deformation under the influence of compressional forces.
E) Brittle deformation under the influence of tensional forces.

38) In subduction zone settings the hypocenters of the largest magnitude earthquakes occur _____ and have the _____ return period.
A) within the overriding plate, longest
B) within the down-going slab, longest
C) within the locked zone, longest
D) within the overriding plate, shortest
E) within the locked zone, shortest

39) All earthquake hypocentres occur within the _____.

A) asthenosphere B) mantle C) lithosphere D) inner core E) outer core

40) Seismic waves passing through the ground during an earthquake are influenced by the ground materials. On which type of ground material would you feel the least amplification of the waves?
A) Intrusive igneous rock B) Sedimentary rock C) Well compacted sediment
D) Poorly compacted sediment E) Water saturated sediment

41) Which statement about the earthquake Moment Magnitude Scale (M_w) is **INCORRECT**?
A) It quantitatively describes the energy released by an earthquake.
B) It is only useful if the area has buildings.
C) Each higher number on the M_W scale is equivalent to 32 times more energy released.
D) It is not useful for describing the effects of historic earthquakes based on written personal accounts.
E) Each higher number on the M_w scale is equivalent to 10 times more ground shaking at the epicenter.

42) Look at the fault shown in the picture above. This fault appeared in a farmer's field in the USA after an earthquake, what kind of fault is this?

A) A normal fault B) A strike slip fault C) A thrust fault
D) A reverse fault E) An abnormal fault

43) As you slowly bend a wooden stick until it snaps, you can make a number of observations. Which one of these observations is **INCORRECT**?

A) Energy is released during brittle failure of the stick.
B) Elastic deformation in the stick occurs before brittle failure.
C) It is hard to predict exactly when the stick will fail in a brittle manner.
D) The stick undergoes ductile deformation before it snaps.
E) Brittle deformation is a permanent deformation.

44) MOST earthquakes occur in just the top 20 km of the Earth's crust because at greater depths _____.

A) rocks do not strain
B) rocks behave plastically
C) rocks are elastic
D) rocks are too strong too break
E) seismometers cannot detect earthquakes

45) Which of the following earthquakes would potentially cause the most damage in Vancouver, consider the earthquake alone and not any related hazards.

A) A M_w 8.0 earthquake with the hypocentre in the Cascadian megathrust zone
B) A M_w 8.0 earthquake in the down going slab with the hypocentre beneath Vancouver
C) A M_w 8.0 earthquake in the overriding plate with the hypocentre beneath Vancouver
D) A M_w 8.0 earthquake in the overriding plate with the hypocentre beneath Victoria
E) A M_w 8.0 earthquake with the hypocentre in California

Station	P-wave Arrival	S-wave arrival
1	1:03 pm	1:04 pm
2	1:07 pm	1:10 pm
3	1:06 pm	1:08 pm
4	1:06 pm	1:08 pm

46) The table above presents the S & P wave arrival times at four seismic stations. From this data, we can tell that_____.
A) stations 3 and 4 are extremely close together
B) the earthquake occurred between stations 1 and 3
C) station 3 is closer to the epicentre than station 2
D) all stations are on one side of the epicenter
E) station 1 is furthest away from the epicenter

47) Which of the following was a cause for the Oso landslide in Washington State?
A) Heavy rainfall and water B) Undercutting
C) Climate D) Weak materials
E) All of the above were causes for this landslide

48) Scaling falls into which of the following types of mitigation?
A) Avoidance B) Prevention C) Protection D) Litigation
E) None of the above

49) If you are about to purchase a home with a lovely (I mean, really lovely) view, which of the following things should make you the most concerned about landslides?
A) Lots of trees on the slope
B) Evidence of older landslides
C) Rain
D) Melting snow
E) A slope

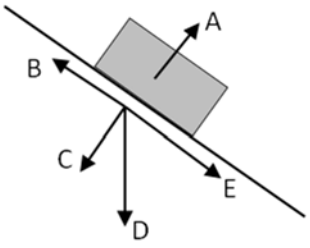
50) If a town of 20,000 people are threatened by debris flows, which of the following mitigation methods is likely to be avoided because of the expense?
A) Building an appropriately sized debris retention structure.
B) Installing rock catchment fences.
C) Creating a channel to guide the flow around the town.
D) Moving the town.
E) They will all cost about the same amount.

51) What type of landslide motion occurred in the image above?
A) Fall B) Rotational slide C) Translational slide
D) Flow E) Complex movement

52) Rivers can affect landslides because they often contribute to_____.
A) undercutting B) overloading C) water in slopes
D) adverse geologic structures E) inherently weak materials

53) What type of landslide motion occurred in the image below?
A) Debris slide B) Rotational slide C) Mud flow
D) Debris flow E) Rock fall

54) What is the **MOST** important difference between a translational slide and a rotational slide?
A) The shape of the failure surface.
B) Translational slides have a curved scarp.
C) Rotational slides move faster.
D) Rotational slides are more deadly.
E) Clay particles are important in translational slides.



55) In the accompanying diagram to the right, of forces acting on an unstable rock block positioned on a hill slope, which arrow refers to the shear stress?
A) A B) B C) C D) D E) E

56) Quick clay slides are very hazardous because_____.
A) steep slopes lead to very bad quick clay slides
B) they occur in places where you wouldn't expect landslides
C) clay is much weaker than volcanic ash
D) glaciers add salt to the clay matrix which weakens the clays
E) farming causes the clay to weaken causing very bad quick clay slides

57) Which of the following is **NOT** a reason volcanic rocks are "inherently weak materials"?
A) They are formed of young materials that have not aged.
B) They have lots of pore spaces (vesicles) in them.
C) They usually occur above heat sources that cycle hot acidic waters through the rocks.
D) They are layered in an unstable way (point downslope).
E) They are formed from stacked layers with varying properties.

58) Which of the following volcanic hazards can occur **WITHOUT** an accompanying eruption?
A) lava flow B) volcanic ash cloud C) pyroclastic flow
D) lahar E) volcanic bombs

59) The shape of a shield volcano is the result of many eruptions of _____ viscosity _____
A) high; mafic lavas
B) high; felsic lavas
C) low; mafic lavas
D) low; felsic lavas
E) high; felsic pyroclasts

60) The 1980 eruption of Mt St Helens was a VEI of 5, erupting ~1 km^3 of tephra. The Mt Pinatubo eruption of 1991 was a VEI of 6, approximately how much tephra was erupted during the Mt Pinatubo eruption?
A) <1 km^3 B) ~1 km^3 C) ~10 km^3 D) ~100km^3
E) None, Mt Pinatubo erupted only lavas

61) Which of the following does **NOT** depend on the chemical composition of an extrusive igneous rock/lava?
A) Crystal size B) Melting temperature C) Mineralogy
D) Viscosity E) Solidification temperature

62) Which of the following monitoring methods is used to detect the volume and type of gas being emitted by a volcano?
A) A GPS network B) Tiltmeters C) InSAR
D) FTIR E) Seismic monitoring

63) If you were put in charge of starting a monitoring program for a newly discovered dormant stratovolcano showing renewed signs of activity, what should be your order of priorities?
A) Seismometers, global positioning systems, mapping of previous hazards, tiltmeters
B) Global positioning systems, seismometers, mapping of previous hazards, tiltmeters
C) Seismometers, global positioning systems, tiltmeters, mapping of previous hazards
D) Seismometers, tiltmeters, global positioning systems, mapping of previous hazards
E) Mapping of previous hazards, seismometers, global positioning systems, tiltmeters

64) Explosive eruptions disperse tephra as_____.
A) lava flows and domes B) lava flows and pyroclastic flows
C) fall out and domes D) fall out and lava flows
E) fall out and ballistics

65) On the diagram to the right which area on the hazard map represents the region of likely air fall hazard?

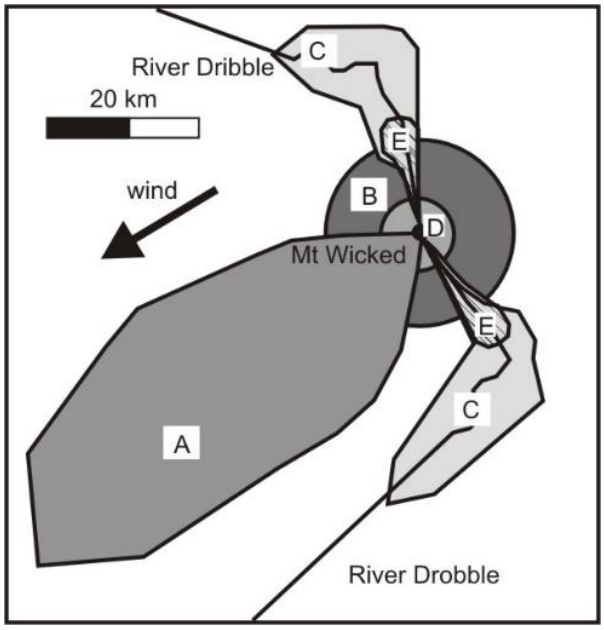
A) A

B) B

C) C

D) D

E) E



66) Also considering the diagram in Question 84, this is a hazard map for a stratovolcano or composite cone, which two of the hazards shown would also be most likely to be found on a cinder cone hazard map?

A) A & B

B) B & C

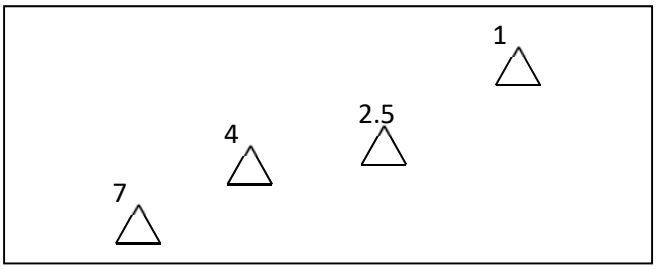
C) C & D

D) D & E

E) None of them will be found on a cinder cone hazard map

67) How does viscosity affect explosivity?
A) High viscosity magmas are colder.
B) Low viscosity magma traps gas, increasing the pressure.
C) Low viscosity magma lets gas escape, increasing the pressure.
D) High viscosity magma lets gas escape, increasing the pressure.
E) High viscosity magma traps gas, increasing the pressure.

68) This diagram represents volcanoes formed by a mantle plume under an oceanic plate. Numbers represent ages of volcanoes in Millions of years. Toward which direction is the oceanic plate moving?



A) Northeast
B) Northwest
C) Southeast
D) Southwest
E) The plate is not moving

69) A high silica igneous rock with large interlocking crystals is called a(n) _____.
A) basalt B) rhyolite C) andesite
D) granite E) gabbro

70) Which of the following would be the lowest in a marine food chain?
A) algae B) halibut C) orca D) oysters E) carbon dioxide

71) Which of the following regarding the biosphere is **TRUE**?
A) The biosphere has remained constant and unchanging since the Cambrian.
B) Dinosaurs were part of the Mesozoic biosphere.
C) The biosphere has been an active "sphere" on Earth since the Earth was formed.
D) The biosphere is like the federal government where the actors (leaders) remain the same but the roles they play (their positions) change with time.
E) The biosphere suffered a major increase in diversity at the end of the Permian.

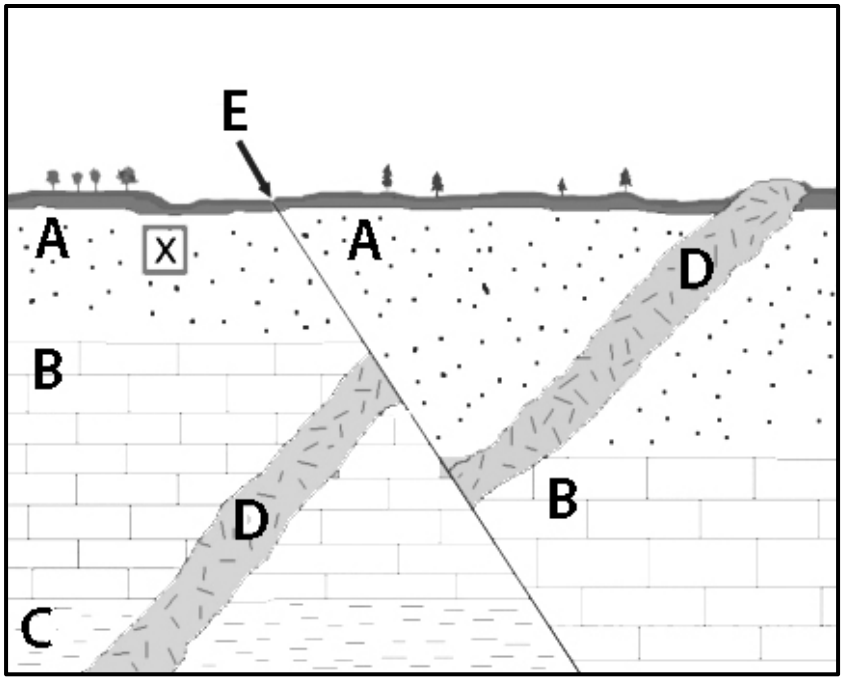
72) During which of the following geological ages were continents the **LEAST** fragmented?
A) Triassic B) Ordovician C) Cretaceous
D) Permian E) Paleogene

73) What is the Principle of Superposition?
A) A principle that states that sediments will always be deposited at a very slow rate.
B) A principle that governs the way the planets and moons in the solar system moves around in fixed orbits.
C) A principle that states that the lowest unit in a sequence of sediments will be the oldest unit.
D) A principle that describes the manner in which fossils follow one another in a recognizable evolutionary sequence.
E) A principle that describes the manner in which continents have fragmented and collided repeatedly throughout geological time

74) Which of the following statements about the Principle of Faunal Succession is **TRUE**?
A) Evolutionary success has been too rapid to allow for accurate correlation of strata.
B) Fossils are generally not affected by mass extinction events.
C) Fossils succeed one another from oldest to youngest due to evolution.
D) Ancient life was most successful after global forest fires.
E) Strata cannot be correlated through succession across large continental areas.

75) Which of the following is **CORRECT**?
A) James Ussher correlated rocks using the radioactive isotopes present in volcanic ash deposits.
B) William Smith believed that fossils follow one another through time in a regular order.
C) James Hutton believed that the Earth was about 6,000 years old.
D) George Cuvier believed that mammoths were fossils of modern day elephants.
E) James Ussher used principles of stratigraphy to prove that the Earth must be millions of years old.

76) The figure below shows a hypothetical geological section exposed in a highway road cut. Rock "D" is an igneous intrusion. The diagonal line "E" is a geological fault. "A", "B" and "C" are rocks layers. Which of the following statements is **TRUE**?
A) "D" is the oldest feature in this section.
B) "A" is the youngest feature in this section.
C) Most of "B" is younger than "D".
D) The part of "A" to the left of fault "E" marked with "X" is younger than "D".
E) "D" is younger than "A".



77) Refer to the figure above. If rock "D" had been dated to 550 million years old, which of the following could be **TRUE**?
A) You might be able to find dinosaur fossils in "A".
B) "C" would contain evidence of the Ordovician glaciation, but "A" and "B" would not.
C) "B" may contain evidence of elevated iridium levels that could be correlated to the impact at Chicxulub.
D) Rocks "A", "B" and "C" would have to be Precambrian in age.
E) Movement along the fault "E" must have occurred in the Cambrian.

78) The majority of the bases of geological periods during the Phanerozoic are defined by _____.
A) the appearance of new species following a mass extinction event
B) mass extinction events
C) the extinction of many species on land
D) iridium clay layers
E) abundance of impact craters

79) Which of the following hypothetical "biosphere crises" could be classified as a mass extinction?
A) 55% of species in the Atlantic Ocean go extinct over 80,000 years. No extinctions of species on land, lower percentage in the Pacific Ocean.
B) 45% of species lost over a 25 million year period
C) Complete extinction of one group of reptiles over 5,000 years. No other extinctions recorded.
D) 32% of species extinct over a period of 1 million years. 45% of that number on land, 55% in the oceans.
E) 10% of species in the desert regions, 30% of species in tropical forests, 65% of species in coral reefs go extinct over a 50,000 year period.

80) Scientists believe that the 6th major mass extinction is on-going. Which of the following is the most likely cause?
A) global warming B) increasing continental fragmentation
C) sea level rise D) unknown viruses and other diseases E) humans

81) All of the following are direct or indirect effects of the production of flood basalts. Which one would **LEAST** likely generate a mass extinction event?
A) Acid rain
B) Sealevel change
C) Increase in carbon dioxide in the atmosphere
D) Effects of atmospheric cooling
E) Lava accumulation on land

82) Which of the following would be the **MOST** effective way to cause a mass extinction today?
A) Exterminate/kill the majority of the biota at the base of the food chain.
B) Stop fertilizing farm land.
C) Acidify major inland lakes.
D) Cut down deciduous forests (those with trees that lose all of their leaves for part of the year).
E) Exterminate/kill all top predators in North America.

83) All of the following likely caused the Permo-Triassic extinction **EXCEPT** _____.
A) decrease in continental biodiversity
B) loss of coastal and shallow water marine habitats
C) massive loss of marine life in anoxic oceans
D) greenhouse warming
E) global and massive deforestation

84) Which of the following is **TRUE** about the Cretaceous-Paleogene extinction?
A) In general, all creatures heavier than 150 kg survived the extinction event.
B) Extinction was most severe on land compared to that in the oceans.
C) Species that initially survived the effects of the impact became extinct due to the loss of the base of the food chain over a period of months.
D) The Cretaceous biosphere was very healthy up to the time of the K/Pg impact.
E) All species of dinosaurs became extinct.

85) What is the Oort cloud?
A) A cloud of nitric oxides that surrounded the Earth following large scale volcanic events in the Deccan area of India.
B) A rapidly moving cloud of hot ash and gas that flows down the flanks of a stratovolcano.
C) The cloud of carbon dioxide that surrounded the Earth following the K/Pg impact event.
D) A spherical cloud of comets surrounding the solar system beyond the orbit of Pluto.
E) A cloud of debris between the orbits of Mars and Jupiter.

86) You're a paleontologist looking for evidence of an ancient global fire. Which of the following would definitely point to one?
A) A sudden increase in fern spores relative to pollen
B) Lots of ferns in a forest
C) Sudden loss of ferns in tropical forests
D) Giant ferns of various ages
E) Extinction of fern-eating mammals

87) Which of the following likely contributed to the significant increase in greenhouse gases in the atmosphere in the Late Cretaceous?
A) Formation of limestone, $CaCO_3$ in the oceans
B) Gases from farting dinorsaurs
C) Emission of volcanic gases
D) Chemical reactions which destroyed the ozone layer
E) Global-scale fires

88) What is the significance of evidence of high levels of iridium in Late Cretaceous sediments?
A) It supports the idea that an extraterrestrial object collided with the Earth at that time.
B) It is proof that the Late Cretaceous biosphere was stressed by iridium contamination prior to the K/Pg extinction.
C) It was evidence that large-scale earthquakes did not contribute to the K/Pg extinction.
D) It proved that the K/Pg meteorite crater was in the Northern Hemisphere.
E) It supported the idea that global fires occurred in the Late Cretaceous, contributing to the mass extinction.

89) How is acid rain generated after a meteorite impact?
A) The very high heat melts pure sandstone to form sulphuric acid that gets released directly into the atmosphere.
B) The blast causes nitrogen and oxygen to form oxides of nitrogen in the atmosphere to form nitric acid.
C) Forest fires cause the flesh of animals to burn, releasing nitrogen-containing amino acids to the atmosphere, producing nitric acid.
D) Tektites interact with rainwater creating "tektite rain", which is rich in hydrochloric and sulphuric acids.
E) The heat from the blast causes the rapid evaporation of sea water and release of chlorine acids to the atmosphere.

90) Why does the Earth **NOT** have an impact-scarred surface like the Moon?
A) The Earth has experienced less impacts than the Moon.
B) The Earth is larger and has a stronger gravitational field.
C) The Earth's surface has undergone change and continental reconfiguration.
D) The Moon's atmosphere attracts the majority of large space debris.
E) The Earth is slightly older than the Moon.

- THE END -