

Geology 104 midterm 4 November 23, 2015
Fifty (50) minute time limit.
Write your answer to the left of each question

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1 River stage is often higher than the adjacent floodplain in the case of

- A (a) the presence of well-sorted natural levees
(b) strongly jointed rocky terrain
(c) incised meanders in regions of active tectonic uplift

2 Oil and gas deposits are not found on the deep seafloor since

- B (a) there is too much heat flow through the ocean crust
(b) carbonate shells dissolve in cold deep waters
(c) more organisms live mainly near the coast

3 Which statement is true about the disintegration of granite

- A (a) the weathering rate increases as the rock breaks into smaller pieces
(b) potassium ions are released as bicarbonate ions react with the quartz
(c) the quartz decays faster than the biotite and magnetite

4 Turbidite deposits are most likely to be found

- B (a) in the forearc basin
(b) on the abyssal plain
(c) on the continental shelf

5 The factor of safety is determined by

- C (a) the amount of vegetation on the slope
(b) tilting of a slope beyond a critical angle
(c) the ratio of shear strength over shear stress

6 Which one of these features is not associated with a meandering stream

- C (a) an oxbow lake
(b) a point bar
(c) a braided channel

7 Gasoline often contaminates groundwater via

- AB (a) leakage of storage tanks
(b) leakage of septic tanks
(c) leakage of waste incinerators

8 An important aspect of Earth atmospheric circulation is that:

- AB (a) trade winds blow from the east
(b) clear skies are found at the equator
(c) cool air rises at 30 degrees north and south latitudes

9 The bottomset beds in a delta are most likely composed of

- CA (a) gravel and cobbles
(b) sand and silt
(c) fine clays and muds

10 The maximum height of a sand dune is determined by

- B (a) the slippage of sand grains down the leeward face
(b) the strength of the wind at the top of the dune
(c) the length of time over which the wind blows continuously

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Permeability measures

- B
- (a) the amount of fluid that passes a given point at a given time
 - (b) the capability of a porous solid to transmit fluids
 - (c) how much fluid a rock can hold if all its pores are filled

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Artesian wells are found where

- A
- (a) the aquifer being tapped is unconfined
 - (b) the recharge area is at higher elevation than the top of the well
 - (c) seawater has invaded and displaced fresh water

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The Sahel region is of interest to geologists since it

- C
- (a) contains petroglyphs perhaps hundreds of years old
 - (b) is subject to flash flooding
 - (c) is at great risk of desertification

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Ocean wave fronts approaching the coastline

- B
- (a) bend towards sandy beaches
 - (b) bend towards rocky headlands
 - (c) bend towards coastal aquifers

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Damp sand is more cohesive than dry sand since

- B
- (a) shear stresses can not act on damp particles
 - (b) surface tension binds damp particles together
 - (c) pore water acts as a lubricant

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Much of water in the Ogallala aquifer was supplied

- B
- (a) by the impact of comets or the early earth
 - (b) during the last ice age
 - (c) during heavy rains of the 19th century

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Folded regions containing ridges of resistant rock are likely to show

- B
- (a) dendritic drainage pattern
 - (b) trellis drainage pattern
 - (c) a rectangular drainage pattern

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Spring tides occur during

- A
- (a) full moons
 - (b) the transition between winter and summer seasons
 - (c) large storm surges

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At low stream velocity

- A
- (a) particles of all sizes settle on the stream bed
 - (b) only cohesive particles such as quartz settle on the stream bed
 - (c) cobbles and boulders are eroded from the stream bed

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During the weathering of feldspar

- A
- (a) a clay residue known as kaolinite is formed
 - (b) carbon dioxide and water combine to produce ferric iron
 - (c) carbon dioxide is added to the environment

Test Code 10

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