

Physical Geology

Test 2

Fall, 2006

Please enter your answer in the space next to the number. The last 11 questions are from slides that we will look at together later in the test.

1. _____(T/F) When minerals containing iron are chemically weathered, the iron is usually oxidized.
2. _____(T/F) Frost wedging is most effective in the polar latitudes.
3. _____(T/F) The single most common and characteristic feature of sedimentary rocks are layers, called strata, or beds.
4. _____(T/F) Mineral composition is the primary basis for distinguishing among the various detrital sedimentary rocks.
5. _____(T/F) Mineral alignment in a metamorphic rock usually gives the rock a foliated texture.
6. _____(T/F) The two major textural groups of metamorphic rocks are detrital and chemical.
7. _____(T/F) Solifluction is a common form of mass wasting in tropical deserts.
8. _____(T/F) The combined effects of mass wasting and running water produce stream valleys.
9. _____Which president was responsible for creating the Soil Conservation Service?
(a) Lyndon Johnson (b) Abraham Lincoln (c) Richard Nixon (d) Franklin Roosevelt
10. _____Which of the following is the biggest factor in soil loss? (a) deforestation (b) farming methods (c) population density (d) road building
11. _____Which of the following types of weathering does not alter the composition of the materials being weathered? (a) chemical (b) hydrolysis (c) mechanical (d) oxidation
12. _____In which of the following locations would the thickest soil likely develop? (a) in a desert (b) in a river valley (c) in a rainforest (d) on the steepest slope
13. _____Which of the following is most resistant to weathering ?. (a) feldspar (b) gypsum (c) halite (d) quartz
14. _____When carbon dioxide (CO₂) dissolves in water, which of the following is produced? (a) calcite (b) carbon monoxide (c) sinkholes (d) a weak acid

15. _____A good soil has all of the following *except* (a) air (b) caliche (c) microscopic organisms (d) a mixture of fine and coarse grains (e) organic matter (f) water
16. _____If my potted plant does not drain well and the roots start to rot, the soil most likely has too much (a) clay (b) fertilizer (c) organic matter (d) sand
17. _____Which of these is *not* a product of weathering of granite? (a) caliche (b) clay minerals (c) quartz grains
18. _____Which of the three general soil types are the least suitable for agriculture? (a) pedocals (b) pedalfers (c) laterites
19. _____In which of the following locations would you expect the thickest soils? (a) the Amazon Rain Forest (b) Dubuque, Iowa (c) Des Moines, Iowa (d) Northern Alaska
20. _____Which of the following is the most influential control of soil formation? (a) climate (b) earth worms (c) farming practices (d) parent rock
21. _____In the essay on Lake Peigneur, Texaco was drilling for oil in a lake on top of a salt mine because (a) getting access rights was easier (b) oil accumulates around salt domes (c) oil is lighter than water (d) salt is easier to drill through than hard rock
22. _____Oxygen-deficient stagnant swamp water prevents the complete decay of plant material, leading to the formation of (a) coal (b) gypsum (c) natural gas (d) oil
23. _____Features found in sedimentary rocks that give clues to past environments include all of the following *except* (a) graded bedding (b) mud cracks (c) pyroclastic flows (d) ripple marks
24. _____The presence of rock salt and rock gypsum in a sedimentary layer indicates (a) an ancient rainforest (b) an ancient swamp (c) the evaporation of sea water (d) wet conditions
25. _____What substance found in coal is ultimately responsible for adverse ecological effects of acid precipitation? (a) carbon (b) hydrogen (c) lead (d) sulfur
26. _____If sediment is coarse and well-rounded, that indicates all of the following *except* (a) it is far from its source (b) it originated in a warm climate (c) it was deposited in a high-energy environment
27. _____Which of the following is likely to be most poorly sorted? (a) sediment on a beach (b) sediment transported by air (c) sediment transported by glaciers (d) sediment transported by streams
28. _____Which of the following is *not* an example of a chemical sedimentary rock? (a) rock salt (b) gypsum (c) limestone (d) sandstone
29. _____If a sediment has graded bedding with coarse sediment on the bottom and fine sediment on top, this is most likely an indication of (a) decrease in water velocity (b) increase in air velocity (c) metamorphism (d) glacial transport
30. _____Cross-bedding, such as is found at Red Rock Canyon outside of Las Vegas, indicates that the sediment that formed the rocks was (a) deposited by glaciers (b) from a braided stream (c) from a sand dune (d) poorly sorted

31. _____Which of the following did *not* cause a long-term increase in oil prices? (a) OPEC oil embargo (b) Iran-Iraq War (c) the first Persian Gulf War
32. _____The purpose of the Old River Control Structure was (a) to allow salmon to migrate upstream (b) to enhance navigation by boats and barges (c) to generate electricity (d) to prevent the Mississippi River from changing course
33. _____Limestone is formed in each of the following ways *except* (a) cave deposits (b) contact metamorphism (c) incorporation into body parts of organisms (d) precipitation from water
34. _____Hydrothermal solutions are responsible for producing (a) impact metamorphism (b) lahars (c) large-scale regional metamorphism (d) lead and zinc deposits
35. _____The nonfoliated metamorphic equivalent of limestone is (a) gneiss (b) marble (c) quartzite (d) slate
36. _____Which of the following produces the greatest volume of metamorphic rock? (a) contact metamorphism (b) hydrothermal metamorphism (c) impact metamorphism (d) regional metamorphism
37. _____Which of the following rocks is neither igneous nor metamorphic but partly each? (a) migmatite (b) obsidian (c) pumice (d) quartzite
38. _____In the essay and video on pigs in Haiti, the concern about the pigs and their eradication was (a) the effect of pork on heart disease (b) the inability of peasants to keep them pinned up (c) their destruction of plant life that protected soil (d) their use as a source of money
39. _____Which of the following occurs during an earthquake when water-saturated materials lose their strength and behave as fluidlike masses that flow? (a) liquefaction (b) rock falls (c) landslides (d) pyroclastic flows

The following questions refer to the slides that we will watch together.

40. _____The tombstones shown are approximately the same age and in the same climate. The difference between the two is due to (a) the preservative value of sweat (b) the wealth of the people who bought the stones (c) the weathering rates of granite and limestone (d) vandalism
41. _____The black arrow shown refers to (a) the oil fields of northern Venezuela (b) a rift beneath the future site of the Mississippi River (c) Scotland (d) the water levels during Hurricane Katrina
42. _____The rock shown is all of the following *except* (a) breccia (b) coarse-grained (c) mafic (d) sedimentary
43. _____The diagram shown demonstrates (a) exfoliation (b) frost wedging (c) lahar (d) slump
44. _____The rock shown is (a) gneiss (b) granite (c) phyllite (d) schist (e) slate
45. _____The rooftop shown is made of (a) gneiss (b) granite (c) phyllite (d) schist (e) slate
46. _____In the soil profile shown, the most important process in its formation is (a) dissolution of limestone (b) downward movement of water (c) precipitation of iron (d) reworking by earthworms
47. _____The rock shown looks like either marble or quartzite. If it is marble, it (a) is harder (b) fizzes in acid (c) smells of sulfur (d) tastes salty
48. _____The map shown is of OPEC countries. Which of the following is a member of OPEC but not in the Middle East? (a) Iraq (b) Iran (c) Kuwait (d) Venezuela (e) Saudi Arabia
49. _____The mass wasting process shown is (a) creep (b) a lahar (c) a pyroclastic flow (d) a slump
50. _____In the figure shown, X points to layers of what (a) basalt (b) mudstone (c) salt (d) sandstone