

Physical Geology

Test 2

Spring, 2006

Name: _____

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

1. _____(T/F) In Bowen's reaction series, the minerals that form last are the most susceptible to chemical weathering.
2. _____(T/F) When minerals containing iron are chemically weathered, the iron is usually oxidized.
3. _____(T/F) The geographic setting where sediment is accumulating is referred to as the environment of deposition.
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) Contact, or thermal, metamorphism occurs in association with igneous intrusions.
7. _____(T/F) The free descent of detached individual rock pieces of any size is called fall.
8. _____(T/F) Water in the pore spaces of sediment increases the cohesion among particles.
9. _____When granite is weathered, which of the following minerals often yields grains of sands found on beaches? (a) feldspar (b) malachite (c) mica (d) quartz
10. _____In our discussion of erosion and soil loss in Haiti, which of the following is the most direct cause? (a) deforestation (b) overgrazing (c) overpopulation (d) excessive rainfall
11. _____In which of the following locations is soil creep likely to be most effective in transporting soil? (a) Arizona (b) Brazil (c) Florida (d) Iowa
12. _____Rainwater is naturally slightly acidic because (a) burning of coal yields sulfate (b) carbon dioxide dissolved in water yields carbonic acid (c) lightning converts nitrogen to nitrate (d) oxygen combines with iron to produce rust

13. _____In general, the thinnest soils are found (a) atop hills (b) on the floodplains of streams (c) on the slopes of ancient volcanoes (d) on the steepest slopes
14. _____In which of the following locations are soils likely to be thickest? (a) Antarctica (b) the Brazilian rainforest (c) Des Moines (d) Las Vegas (e) Miami Beach
15. _____Which of the following rocks is formed from pebbles transported a long distance by streams from their source area? (a) breccia (b) conglomerate (c) sandstone (d) shale
16. _____Which of the following refers to the processes by which unconsolidated sediments are transformed into solid sedimentary rocks? (a) deposition (b) erosion (c) lithification (d) sedimentation
17. _____Which of the following forms of coal is a metamorphic rock? (a) anthracite (b) bituminous (c) lignite (d) sub-bituminous
18. _____Features found in sedimentary rocks that give clues to past environments include all of the following *except* (a) foliation (b) fossil remains (c) graded bedding (d) mud cracks (e) ripple marks
19. _____When sea water evaporates, which of the following is *not* left behind? (a) gypsum (b) halite (c) limestone (d) schist
20. _____Which of the following depositional environments would yield the most poorly sorted sediments? (a) delta (b) dune (c) glacier (d) marsh
21. _____Which of the following is *not* an important part of the process in forming fossil fuels? (a) burial of organic material (b) complete decay of organic material (c) production of organic material (d) rapid removal of organic material from available oxygen
22. _____(T/F) The burning of coal with small amounts of pyrite, a sulfur compound, causes acid rain.
23. _____(T/F) Only pressure, not heat, determines whether metamorphism occurs.
24. _____The type of metamorphism that occurs in the region immediately adjacent to a magmatic intrusion is (a) contact metamorphism (b) hydrothermal metamorphism (c) impact metamorphism (d) regional metamorphism
25. _____Mountain building is associated with which of the following types of metamorphism? (a) contact metamorphism (b) hydrothermal metamorphism (c) impact metamorphism (d) regional metamorphism
26. _____Which of the following types of metamorphism is most likely to be associated with midoceanic spreading centers? (a) contact metamorphism (b) hydrothermal metamorphism (c) impact metamorphism (d) regional metamorphism
27. _____Which of the following metamorphic rocks represents the highest temperatures and pressures? (a) gneiss (b) phyllite (c) schist (d) slate
28. _____Solifluction is common in Alaska due to (a) earthquakes (b) erosion caused by animal migrations (c) exploration for oil (d) melting of permafrost

29. _____ Mass wasting will most likely occur when materials are at an angle that is less than their angle of repose.
30. _____ The controlling force of mass wasting is (a) clay content (b) fractures (c) gravity (d) water content
31. _____ Which of the following human actions is likely to increase mass wasting? (a) construction of drainage tiles (b) construction of road cuts (c) contour plowing (d) reforestation
32. _____ Mud flows on the slopes of volcanoes, such as at Mt. St. Helens, are called (a) avalanches (b) creep (c) lahars (d) slumps
33. _____ Iowa has lost approximately 50% of its soil. Which president created the Soil Conservation Service to try to slow soil loss? (a) Franklin Roosevelt (b) Herbert Hoover (c) Lyndon Johnson (d) Richard Nixon
34. _____ The destruction of all the pigs in Haiti led to changes in soil loss because (a) Haitians had to plant peanuts to replace the protein that came from pork (b) pigs churned up the soil digging for food (c) the pigs were replaced with sheep who are harder on the soil (d) trees became a substitute source of income
35. _____ The purpose of the Old River Control Structure, discussed in the presentation on Louisiana geology, is (a) to allow barges to travel more quickly and safely on the river (b) to divert water down the Atchafalaya River (c) to force the Mississippi River to maintain its present course (d) to slow the loss of wetlands
36. _____ The rocks directly under Dubuque are of which geologic age? (a) Pleistocene (b) Cenozoic (c) Mesozoic (d) Paleozoic

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

37. _____ In the picture shown, the miners are looking for (a) diamonds (b) gold (c) lead (d) silver
38. _____ At the point indicated by the arrow is located (a) a deep-sea trench (b) new oceanic crust (c) a rift in the continental crust (d) a subduction zone
39. _____ This picture shows (a) construction of a canal by Irish immigrants (b) mining in the Dubuque area 150 years ago (c) a terrorist attack a dam (d) the blowing up of a levee downstream from New Orleans
40. _____ The process shown represents all of the following *except* (a) chemical weathering (b) expansion of water when it freezes (c) frost wedging (d) mechanical weathering
41. _____ The gravestone on the right weathered more quickly than the one on the left because (a) it was in a wetter climate (b) it was made of granite (c) it was made of limestone (d) it is older
42. _____ The most important factor in the formation of the soil profile shown is (a) the absence of worms (b) the downward movement of water (c) the growth of vegetation on the surface (d) the presence of calcium carbonate
43. _____ The red color of the rock shown is due to (a) organic-rich materials from rainforests (b) oxidation of aluminum (c) oxidation of iron (d) the presence of sodium
44. _____ The source of the sediment that formed the rock shown is (a) evaporation of seawater (b) weathering of granite (c) organisms (d) weathering of iron ore
45. _____ The roof of the building shown is all of the following *except* (a) metamorphic (b) shale (c) slate (d) foliated
46. _____ The rock shown is all of the following *except* (a) made by metamorphism of limestone (b) marble (c) quartzite (d) softer than glass (e) soluble in weak acid
47. _____ The white area surrounded by shades of green in the center of the picture shown is all of the following *except* (a) the area that was not covered by Pleistocene glaciation (b) the Driftless Area (c) where Dubuque is located (d) the Des Moines lobe of glaciation
48. _____ Which of the following countries is *not* a member of OPEC (a) Indonesia (b) Nigeria (c) Syria (d) Venezuela
49. _____ In the picture shown oil accumulates for all of the reasons *except* (a) the limestone has large pores in which the oil accumulates (b) the mudstone is the source for organic material that is transformed into oil (c) the sandstone is the reservoir in which oil accumulates (d) the salt deforms the overlying sediments, creating traps in which the oil accumulates
50. _____ The house shown is well above the ground because (a) the ground subsided (b) raised houses flood less (c) New Orleanians like to fish from their porches