

**Testbank for Exam II, Physical Geography,
Spring, 2009**

<Chapter 7: Global Climates>

Multiple Choice Questions

1. In its most general sense, climate is _____.
 - a. based on vegetation types alone
 - b. a model of reality that is too simplistic to be useful
 - c. the average weather of a region
 - d. a reflection of solar insolation values and placement in relationship to tidal action

2. What two major factors influence the annual cycle of air temperature experienced at a station?
 - a. latitude and longitude
 - b. longitude and location in relationship to the coast
 - c. latitude and coastal versus continental location
 - d. annual solar insolation and latitudinal coastal location

5. In contrast to the equatorial temperature regime, the tropical continental temperature regime is characterized by _____.
 - a. uniform temperatures all year round
 - b. a high annual variation in solar insolation
 - c. no annual variation in solar insolation
 - d. a very strong temperature cycle

6. The tropical desert climates are caused by _____.
 - a. a lack of moisture
 - b. their placement in relationship to the Prime Meridian
 - c. their distance from the equator and the Arctic circle
 - d. stationary subtropical cells of high pressure

8. Monthly patterns of precipitation are typified by three types: 1) uniformly distributed precipitation, 2) a precipitation maximum during the high-Sun season, and 3) _____.
 - a. a precipitation maximum during the late low-Sun season
 - b. a precipitation minimum during the late high-Sun season
 - c. a precipitation maximum during the low-Sun season.
 - d. a precipitation minimum during the early high-Sun season

9. In Mediterranean climates, summer _____ is caused by _____ pressure cells.
 - a. precipitation, subtropical high

- b. precipitation, midlatitude low
 - c. drought, subtropical low
 - d. drought, subtropical high
15. A geographic feature common to dry climates is _____.
- a. no permanently flowing streams
 - b. a surface covered with dry lakes
 - c. a complete lack of precipitation
 - d. high surface winds
16. Semiarid climates are noted for _____.
- a. a complete lack of vegetation
 - b. a surface covered with dry lakes
 - c. steppes with sparse grasslands
 - d. high surface winds
17. Wet equatorial climates _____.
- a. are significantly influenced by the ITCZ
 - b. are dominated by warm, moist mE and mT air masses
 - c. show no seasonal rainfall pattern
 - d. a and b
18. The _____ air mass is drawn onshore over Asia during the summer monsoon season.
- a. mP
 - b. cP
 - c. cT
 - d. mT
19. Dry tropical climates are generally located in the _____ and on the _____ of subtropical high-pressure cells.
- a. center; west sides
 - b. center; north sides
 - c. center; south sides
 - d. center; east sides
20. Dry tropical climates are driest near the _____.
- a. equator
 - b. tropic of Cancer
 - c. tropics of Cancer and Capricorn
 - d. tropic of Capricorn
21. A _____ refers to a semiarid area where some grasses grow in response to a short wet season.
- a. desert
 - b. prairie

- c. grassland
- d. steppe

23. The _____ climate is renowned for its very scarce precipitation during the summer season.
- a. moist subtropical
 - b. dry subtropical
 - c. Mediterranean
 - d. ice-sheet
24. The _____ air masses are responsible for precipitation patterns in the moist continental climate.
- a. mT, cP, and mP
 - b. mP, cT, and mT
 - c. mT, cP, and cA
 - d. cA, cP, and mP

True/False Questions

26. True/False The wet equatorial climate receives its precipitation from convectational rainfall.
27. True/False The wet-dry tropical climate is distinguished by a very dry season at low sun that alternates with a very wet season at high sun.
31. True/False Boreal forest climates have short, cool summers and long, bitterly cold winters.
32. True/False The Köppen climate classification system divides the world into seven major climate zones.
33. True/False Warm air can hold more moisture than can cold air.
35. True/False Annual temperature cycles are strong in the midlatitude continental regime.
37. True/False A steppe is a vast expanse of semiarid grassland.

<Chapter 8: Biogeographic Processes>

Multiple Choice Questions

1. Within an ecosystem, energy transformations occur through a series of levels commonly referred to as the food web, within which plants and algae represent the _____.

- a. secondary producers
 - b. primary consumers
 - c. primary producers
 - d. decomposers
3. During the nitrogen cycle, the process in which certain soil bacteria convert nitrogen from usable forms (NO_x) back to N_2 is called _____.
- a. nitrification
 - b. nitrogen fixation
 - c. denitrification
 - d. nitrogen consumption
6. The annual rhythm of leaf shedding by deciduous trees is determined by:
- a. light
 - b. heat
 - c. wind
 - d. moisture
7. Plants that adapt to drought conditions are:
- a. tropophytes
 - b. epiphytes
 - c. xerophytes
 - d. hydrophytes
9. Which of the following is an edaphic factor important in differentiating habitat?
- a. soil texture
 - b. time
 - c. light
 - d. all of the above
10. The phenomenon in which chemical toxins produced by one species serves to inhibit the growth of others is:
- a. predation
 - b. allelopathy
 - c. parasitism
 - d. herbivory
11. Succession that occurs on a site that has been burnt in a forest fire is:
- a. primary succession
 - b. secondary succession
 - c. tertiary succession
 - d. ecological succession
12. Pioneer species are:
- a. well adapted to dry soil conditions
 - b. able to withstand temperature extremes

- c. larger than other species that replace them
 - d. all of the above
 - e. a and b
13. The finch species on the Galapagos Islands are an example of:
- a. allopatric speciation
 - b. sympatric speciation
 - c. polyploidy speciation
 - d. genetic drift
14. The process by which species are differentiated and maintained is:
- a. recombination
 - b. mutation
 - c. speciation
 - d. variation
15. Which of the following is not a speciation process?
- a. mutation
 - b. genetic drift
 - c. natural selection
 - d. extinction
16. The highest biodiversity on Earth is found in:
- a. tropical and equatorial regions
 - b. midlatitude regions
 - c. alpine regions
 - d. subarctic and arctic regions

True and False Questions

21. True/False Few plant and animal species are found in the equatorial rainforest.
22. True/False Nitrogen in the form of N_2 can be utilized directly by most organisms.
24. True/False Cosmopolitan species are restricted to a single region or location.
25. True/False Human activity is rapidly decreasing the Earth's biodiversity.
30. True/False Cold-blooded animals survive the winter period by becoming dormant.

<Chapter 9: Global Biogeography>

Multiple Choice Questions

1. Natural vegetation _____.

- a. is a plant cover that develops with little or no human interference
 - b. is a plant cover that develops with no human interference
 - c. no longer exists as humans have affected every part of the globe's surface
 - d. is an ideal state from which human modifications can be judged
2. _____ are plant forms in which algae and fungi live together to form a single plant structure.
- a. Lianas
 - b. Herbs
 - c. Lichen
 - d. Moss
3. The _____ biome develops in regions with moderate shortages of soil water.
- a. forest
 - b. savanna
 - c. desert
 - d. grassland
4. Which biome is represented by an open cover of trees with grasses and herbs underneath?
- a. forest
 - b. desert
 - c. grassland
 - d. savanna
5. _____ are plants that are well adapted to drought conditions.
- a. Sclerophylls
 - b. Xerophytes
 - c. Deciduous
 - d. Evergreens
6. Of the following climates, which has a strong wet-dry alternation and many of the plants have xerophytic adaptations?
- a. Mediterranean
 - b. tundra
 - c. tropical
 - d. polar
11. _____, found in equatorial and tropical latitude zones, are very diverse, containing large numbers of plant and animal species.
- a. Low-latitude rainforest
 - b. Monsoon forest
 - c. Subtropical evergreen forest
 - d. Needleleaf forest

12. Trees within the _____ occur in two forms: broadleaf and needleleaf.
- low-latitude forest
 - monsoon forest
 - midlatitude deciduous forest
 - subtropical evergreen forest
13. Needleleaf forests are noted for _____.
- their lack of species
 - the low level of shade they provide
 - evergreens that hold on to their needles for about a year
 - poor quality pulp wood
14. Within the boreal forest of north-central and eastern Siberia, the dominant _____ tree sheds its needles in winter and is thus a deciduous needleleaf tree.
- spruce
 - pine
 - larch
 - cedar
15. According to a report issued by the United Nations Food and Agriculture Organization, _____ of the world's rainforest is lost annually to other uses.
- five percent
 - one percent
 - ten percent
 - less than one percent
16. The _____ is dominated by low trees with thick, leathery leaves that are well-adapted to the long summer drought of the Mediterranean climate.
- deciduous forest
 - coastal forest
 - low-latitude rainforest
 - sclerophyll forest
17. Plants of the _____ grow, bloom and set seed during a short summer thaw following harsh cold winters.
- desert biome
 - tundra biome
 - grassland biome
 - savanna biome
19. Within the grassland biome, _____ are best developed in regions of midlatitude and subtropical zones with well-developed winter and summer seasons.
- tall-grass prairies

- b. forbs
- c. prairie grasslands
- d. steppes

True/False Questions

22. True/False Lianas are woody plants that take the form of vines.
23. True/False Perennials are plants that live for a year and then die.
28. True/False Animals, including insects, dominate any biome because of their large numbers.
30. True/False Grazing by large mammals and periodic burning in the dry season help to maintain the openness of the savanna biome by suppressing tree seedlings.

<Chapter 10: Global Soils>

Multiple Choice Questions

1. Soil science, often referred to as _____, involves a complex interaction between both chemical and physical processes.
- a. geomorphology
 - b. pedology
 - c. geology
 - d. agronomy
2. Soil scientists use the term _____ to describe finely divided, partially decomposed organic matter in soils.
- a. colloid
 - b. peat
 - c. organic residue
 - d. humus
4. Soils of the Midwest prairies have a black or dark brown colour because they contain abundant particles of _____.
- a. peat
 - b. humus
 - c. magnesium
 - d. iron
5. Soil colloids tend to be _____ charged because of their molecular structure, and thus attract and hold _____ charged plant nutrients such as _____.
- a. positively, negatively, CO_3^{2-} and SO_4^{2-}
 - b. positively, negatively, Ca^{2+} , Mg^{2+} , K^+ and Na^+

- c. negatively, positively, Ca^{2+} , Mg^{2+} , K^+ and Na^+
d. negatively, positively, CO_3^{2-} and SO_4^{2-}
6. High soil acidity is typical of _____ climates.
a. cold, humid
b. cold, dry
c. warm, humid
d. warm, dry
7. Soils with _____ lack soil structure peds.
a. low clay content
b. high clay content
c. high sand content
d. low sand content
8. _____ minerals in soils are compounds that remain from the unaltered rock while _____ minerals are formed by alteration.
a. Parent, regolith
b. Secondary, tertiary
c. Primary, secondary
d. Initial, subsequent
9. Surplus water stored in the soil usually _____.
a. evaporates
b. transpires
c. undergoes evapotranspiration
d. percolates down to the ground water zone
11. Soil must absorb an amount of water equal to the summer storage withdrawal before _____ begins.
a. precipitation
b. storage recharge
c. water surplus
d. evapotranspiration
12. The display of horizons on a cross section through the soil is termed a _____.
a. soil profile
b. soil strata chart
c. soil layer
d. soil condition
14. In _____ climates organic matter accumulates in soils while in comparison, it is relatively scarce in _____ climates.
a. cold, warm
b. dry, wet

- c. warm, cold
 - d. wet, dry
16. Tundra soils fall largely into the order of _____, soils with weakly developed horizons that are usually associated with a moist climate.
- a. Spodosols
 - b. Andisols
 - c. Inceptisols
 - d. Histosols
17. _____ are quite closely related to the Oxisols in outward appearance and environment of origin. They are reddish to yellowish in color.
- a. Spodosols
 - b. Ultisols
 - c. Mollisols
 - d. Aridisols
18. _____ typically form under grass and savanna vegetation in subtropical and tropical climates with a pronounced dry season.
- a. Vertisols
 - b. Spodosols
 - c. Mollisols
 - d. Aridisols
20. Spodosols, formed in the cold boreal forest climate beneath a needle-leaf forest, have a unique property - a B horizon with a low capacity to hold _____.
- a. humus
 - b. water
 - c. bases
 - d. acids

True/False Questions

22. True/False The higher the temperature, the slower the decay process of organic soil components.
23. True/False Humus is finely divided, partially decomposed organic matter that either rests on the soil surface or is mixed through the soil.
26. True/False Soil texture refers to the proportion of particles that fall into each of three size grades: silt, talc, and clay.
28. True/False Highly acid soils (pH of eight or greater) are commonly found in cold, humid climates.

29. True/False Aluminum oxide, bauxite, iron oxide, and limonite are all examples of secondary minerals.

<Chapter 11: Earth Materials>

Multiple Choice Questions

1. _____, the predominant element of the Earth's crust, accounts for almost _____ of the total percentage of weight.
 - a. Iron, two-thirds
 - b. Silicon, one-half
 - c. Aluminum, one-quarter
 - d. Oxygen, one-half
2. A _____ is a naturally occurring, inorganic substance that usually possesses a definite chemical composition and characteristic atomic structure.
 - a. crystal
 - b. mineral
 - c. rock
 - d. metamorphic rock
3. _____ can broadly be defined as an assemblage of minerals in the solid state.
 - a. Sedimentary rock
 - b. Igneous rock
 - c. Metamorphic rock
 - d. Rock
1. _____ are formed from layered accumulations of mineral particles derived mostly by weathering and erosion of preexisting rocks.
 - a. Sedimentary rocks
 - b. Igneous rocks
 - c. Metamorphic rocks
 - d. volcanic rocks
5. Most igneous rock consists of silicate minerals, chemical compounds that contain _____.
 - a. silicon and fluorite compounds
 - b. siliceous and nitrate type compounds
 - c. silicon and oxygen atoms
 - d. silver and oxygen atoms
6. Quartz and feldspar form a silicate mineral group described as _____.
 - a. mafic
 - b. intermediate
 - c. felsic
 - d. siliceous

7. Igneous rocks solidify from rock in a hot, molten state, known as _____.
- lava
 - molten rock
 - slag
 - magma
8. Intrusive igneous rocks are noted for their:
- large mineral crystals
 - interesting mineral composition
 - hardness, compared to extrusive igneous rocks
 - darker colors
9. A body of intrusive igneous rock is called a _____.
- batolith
 - regolith
 - pluton
 - fracton
11. Near the Earth's surface, a chemical alteration process known as _____ occurs when oxygen dissolved in soil or groundwater reacts with the minerals.
- hydrolysis
 - oxidation
 - dissolution
 - solution
12. _____ sedimentary rocks are composed of weathered and eroded inorganic rock and mineral fragments.
- Chemically precipitated
 - Organic
 - Clastic
 - Plastic
13. Shale, the most abundant of all sedimentary rocks, is formed largely of _____.
- clay minerals and silt
 - sand grains and gravel
 - talc
 - organic products
14. One of the most common sedimentary rocks formed by chemical precipitation is _____, composed largely of the mineral calcite.
- Marble
 - Hornblende
 - Augite

- d. Limestone
16. Natural gas is predominantly composed of _____.
- carbon dioxide
 - ethane
 - methane
 - propane
17. _____ is formed from shale that is heated and compressed by mountain-making forces.
- Slate
 - Quartzite
 - Schist
 - Marble
18. The metamorphic equivalent of conglomerate, sandstone and siltstone is _____, which is formed by the addition of silica to fill completely the open spaces between the grains.
- slate
 - quartzite
 - schist
 - marble
19. A high grade metamorphic rock that is strongly banded into light and dark layers is called a _____.
- schist
 - slate
 - gneiss
 - marble

<Chapter 12: The Lithosphere and Plate Tectonics>

Multiple Choice Questions

1. The theory describing the motions and changes through time of the continents and ocean basins, and the processes that fracture and fuse them, is called _____.
- continental drift
 - Earth dynamics
 - plate tectonics
 - the Wilson cycle
2. Enclosing the metallic core is the _____, a rock shell about 2900 kilometers thick.

- a. asthenosphere
 - b. mantle
 - c. moho layer
 - d. lithosphere
3. The center of the Earth is occupied by the _____ of about _____ kilometers in radius.
- a. mantle, 2900
 - b. mantle, 3500
 - c. core, 2900
 - d. core, 3500
4. The upper layer of continental crust is made up of _____ rock.
- a. mafic
 - b. ultramafic
 - c. felsic
 - d. serpentine
5. Ocean bottom crust is made up almost entirely of _____ rock.
- a. mafic
 - b. ultramafic
 - c. felsic
 - d. serpentine
8. All time older than 570 million years (should be 542 Ma, NS) before the present is _____ time.
- a. Cambrian
 - b. Mesozoic
 - c. Triassic
 - d. Precambrian
11. The Caledonides and _____ are both ancient mountain roots that formed some 250 million years ago.
- a. Appalachian Mountains
 - b. Rocky Mountains
 - c. Sierra Nevada Mountains
 - d. Ural Mountains
14. Some continental margins are _____ and accumulate thick deposits of continental sediments while other continental margins are _____ and have trenches marking the location at which ocean crust is sliding beneath continental crust.
- a. passive; active
 - b. active; passive
 - c. passive; tectonic
 - d. submerging, emerging

15. The large flat expanses of ocean floor between the continental margins and midocean ridges are called _____.
- a. abysmal plains
 - b. abyssal plains
 - c. sea floor rises
 - d. continental shelves
16. The process in which one plate is carried beneath another is called _____.
- a. advection
 - b. convection
 - c. liposuction
 - d. subduction
18. The San Andreas Fault forms a _____ boundary between the Pacific plate and the North American plate.
- a. transform
 - b. converging
 - c. spreading
 - d. subduction

20. Alfred Wegener, a German meteorologist and geophysicist, suggested in 1915 that the continents had once been adjoined as a supercontinent he named

- _____.
- a. Wegener Land
 - b. Gondwanaland
 - c. Pangea
 - d. Laurasia

<Chapter 13: Volcanic and Tectonic Landforms>

Multiple Choice Questions

2. Which is not a force of denudation?
- a. waves and currents
 - b. glacial ice
 - c. tectonic processes
 - d. wind
5. The _____ of the magma present within a volcano primarily determines whether the volcanic will erupt explosively or quietly.
- a. temperature
 - b. viscosity
 - c. pressure
 - d. chemistry
6. Occasionally, stratovolcanoes erupt so violently that the entire central portion of the volcano collapses into its empty magma chamber to subsequently form a water-filled volcanic lake called a _____.
- a. caldera
 - b. guyot
 - c. cinder cone
 - d. batholith
8. Rapid mixing of volcanic ash and the water produced by the flash melting of ice and snow that has accumulated at the tops of some dormant stratovolcanoes produces a deadly mud avalanche know as a(n) _____.
- a. debris flow
 - b. rock fall
 - c. lahar
 - d. mudslide
9. The chain of Hawaiian volcanoes was created by the motion of the _____ plate over a _____.
- a. Nazca, trench
 - b. Cocos, trench

- c. Cocos, hotspot
- d. Pacific, hotspot

11. There are basically two different forms of tectonic activity. These are _____.
- a. compressional and extensional
 - b. stressful and decompression
 - c. decompression and extensional
 - d. compressional and stressful
12. Compression leads to the folding of the crust which results in the formation of _____.
- a. anticlines and synclines
 - b. synclines and troughs
 - c. upfolds and troughs
 - d. troughs and anticlines
13. A _____ in the brittle rocks of the Earth's crust occurs when rocks suddenly yield to unequal stresses by fracturing.
- a. break
 - b. fault
 - c. crack
 - d. scarp
15. A narrow block dropped down between two normal faults is a _____.
- a. horst
 - b. graben
 - c. deep valley
 - d. shallow valley
16. _____ faults result in crustal shortening produced by compression of the crust.
- a. Normal
 - b. Transcurrent
 - c. Strike-slip
 - d. Reverse