Clicker Questions, Test 4

April 11, 2016, Outline 19

1. What is the name of the orogeny that formed the Rocky Mountains, including the Teton Mountains of Wyoming?
   A. Laramide
   B. Alpine
   C. Caledonian
   D. Taconic

2. The western United States has extensive mountainous areas. Which region has mountains resulting from extension, rather than uplift?
   A. The Rocky Mountains
   B. The Basin and Range
   C. The Coast Ranges
   D. The Sierra Nevada

3. What type of fault is the San Andreas Fault of California?
   A. Normal
   B. Thrust
   C. Transform
   D. Reverse
4. The magma chamber under Yellowstone National Park is slowly cooling, thus future volcanic eruptions are unlikely.
   A. True
   B. False

April 13, 2016, Outline 20

1. The ___________ mammals lay eggs, the ___________ mammals carry their young in a pouch, and the ___________ mammals give birth to well-developed young.
   A. monotremes, placentals, marsupials
   B. monotremes, marsupials, placentals
   C. marsupials, monotremes, placentals
   D. placentals, monotremes, marsupials

2. How do paleontologists tell mammal skulls from reptile skulls?
   A. by the number of bones in the lower jaw
   B. by the presence of a secondary palate in mammals
   C. by the shape and arrangement of teeth
   D. all of the above
3. Which group of primitive mammals is ancestral to a wide range of placental mammals?
   A. insectivores
   B. carnivores
   C. ungulates
   D. cetaceans

4. Modern elephants are most closely related to which mammals?
   A. Mammoths
   B. Mastodons
   C. Titanotheres
   D. Sirenians

5. What was the most likely reason for the extinction of large Pleistocene mammals such as mastodons, mammoths, giant beavers, the Irish Elk, etc?
   A. Loss of habitat space as glacial ice cover large continental areas.
   B. Global warming at the end of the last glacial stage.
   C. Competition between mammal species.
   D. Hunting by humans.
1. What is the difference between anthropoids and hominoids?
   A. Some anthropoids have a tail.
   B. All hominoids lack a tail.
   C. Hominoids are part of the anthropoids.
   D. All of the above.

2. Which came first in human evolution?
   A. Large brains
   B. Naked skin
   C. Bipedalism
   D. Stone tools

3. The process that allowed large brains to evolve in humans is called:
   A. punctuated equilibrium
   B. phyletic gradualism
   C. neoteny
   D. evolutionary stasis
Outline 22

4. What is the oldest hominoid fossil that is definitely more related to humans than apes?
   A. *Sahelanthropus* at 6.5 MY old  
   B. *Orrorin* at 5.5 MY old  
   C. *Ardipithecus* at 4.4 MY old  
   D. *Australopithecus* at 3.8 MY old

April 20, 2016, Outline 22

1. *Australopithecus* must have walked similarly to how *Homo sapiens* walks. How do we know that?
   A. Based on the preserved knee and hip joints of “Lucy”, *Australopithecus afarensis*.  
   B. Based on the shape of footprints found in hardened volcanic ash about 4 MY old.  
   C. Based on the position of the spinal cord opening on the skull of *A. afarensis*.  
   D. All of the above.

2. The genus *Homo* evolved around 2 MY ago. Which hominid genus was most closely related?
   A. *Ardipithecus*  
   B. *Paranthropus*, the robust australopithecines  
   C. *Australopithecus*, the gracile australopithecines  
   D. It is a mystery, no one is really very sure.
3. Studies of Neanderthal DNA preserved in bones from caves indicates which groups of *Homo sapiens* have some Neanderthal DNA and, thus, apparently interbred with Neanderthals around 60,000 years ago?
   A. Africans  
   B. Europeans  
   C. Asians  
   D. B and C

4. Who painted the pictures of animals on cave walls in Europe around 17,000 years ago?
   A. *Homo antecessor*  
   B. *Homo neanderthalensis*  
   C. *Homo sapiens*  
   D. *Homo floresiensis*

April 25, 2016, Outline 23

1. What is albedo?
   A. The area of ice cover on the Earth.  
   B. The reflectance of the Earth’s surface.  
   C. The rate of global warming.  
   D. The Earth’s libido.
2. Interglacial stages can be present during an ice age.
   A. True
   B. False

3. What is the fundamental cause of the Cenozoic ice ages?
   A. Cooling of the sun.
   B. Changes in the Earth’s orbital pattern around the Sun.
   C. Changes in oceanic circulation around Antarctica caused by plate motions.
   D. Changes in the Earth’s wind circulation.

4. How high would sea level rise if all the ice on Earth melted?
   A. 200 ft.
   B. 400 ft.
   C. 600 ft.
   D. 1000 ft.
5. Which of the following conditions is/are most critical for the expansion of glaciers on North America?
A. Extremely cold winters
B. Cool summers
C. Net accumulation of snowfall from year to year
D. B and C

6. The Pleistocene glacial episodes are spaced approximately 100,000 years apart. Which orbital parameter is the cause of this cyclicity?
A. Eccentricity – the shape of the Earth’s orbit
B. Tilt of the Earth’s axis
C. Perihelion – time of the year when the Earth is closest to the sun

April 27, 2016, Outline 24

1. How far back in time are there direct measurements of Earth’s air temperature?
A. Since about the mid-1800s when thermometers became common.
B. Since the 1500s when Leonardo da Vinci invented the thermometer.
C. Since the times of the Romans.
D. About 400,000 years based on ice cores from Antarctica.
2. Many animal species and humans easily walked between continental Europe and the British Isles during the last glacial stage of the Pleistocene.
   A. True
   B. False

3. Temperature changes over the past 400,000 years were caused by Milankovitch cycles rather than carbon dioxide because the pattern of CO2 change lags temperature change by 800 years.
   A. True
   B. False

4. Sea level is now beginning to rise faster after having risen slowly for the past 5,000 years.
   A. True
   B. False