

## Earth Science MCQs (Part 18 of 21)

1. If the earth's axis of rotation were not tilted, which one of the following statements would be TRUE?
  - a. Equal day and night at all places throughout the year
  - b. Duration of day and night will depend on latitude but will not change with time.
  - c. The poles will have daylight for six months.
  - d. There will be no seasons.
2. For an element having a radioactive isotope of  $5 \times 10^9$  y half-life, its atomic weight in  $5 \times 10^6$  years will
  - a. increase
  - b. decrease
  - c. remain constant
  - d. decrease to 1/1000th of its initial value.
3. On earth, both incoming and outgoing radiations show variations with latitude such that there is heat excess at the equator and deficit at high latitudes. However, neither the poles are getting colder nor is the equator getting warmer with time because
  - a. the earth's albedo is changing with time.
  - b. solar activity is changing with time.
  - c. atmospheric and oceanic circulations redistribute heat
  - d. of the build-up of atmospheric green house gases.
4. The mixing time of deep ocean water is about 1000 years. Therefore, elements such Na, Mg, P and Si having residence limits significantly longer than 1000 years should be homogeneously distributed in the ocean. Which one of the following sets of elements is non homogeneously distributed
  - a. Na + Mg
  - b. Na + Si

- c. Si + P
- d. P + Mg
5. The partial pressure of CO<sub>2</sub> in the atmosphere of Venus is about 88.7 bars. If H<sub>2</sub>O were present on Venus it would most likely to be in the form of
- liquid water
  - Ice
  - mixture of water and ice
  - water vapour
6. Meteorites are generally divided into three major groups: Stony, stony-iron and iron meteorites. The most likely source of iron meteorites is:
- the crust of the parent bodies.
  - the core of the parent bodies
  - undifferentiated parent bodies
  - the mantle of the parent bodies
7. The half life of <sup>26</sup>Al is 750, 000 years. How much of <sup>26</sup>Al will now be present 10g of Al<sub>2</sub>O<sub>3</sub> formed at the time of formation of the earth?
- 10g
  - 5g
  - 0g
  - 54g
8. The number of carbon atoms present in unit volumes of graphite and diamond respectively are
- dependent on their origin
  - more in graphite, less in diamond
  - more in diamond, less in graphite
  - independent of the form
9. Relative percentage of which of the following minerals increases with increase in maturity of sediments?

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- a. Feldspar
- b. Quartz
- c. Amphibole
- d. Olivine

10. The maximum flow velocity required to entrain a resting particle is for

- a. sand
- b. unconsolidated clay
- c. silt
- d. consolidated clay

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