

## Chapter 1 Plant Systematics

1. In the five-kingdom system of classification, Monera would you classify as
  - (A) nitrogen-fixing organisms
  - (B) archaea
  - (C) true nuclear membrane
  - (D) reproduce by binary fusion
  
2. Difference between the natural system of plant classification and artificial system of classification are
  - (A) natural classification shows a very few characters of its members
  - (B) convergent evolution makes distantly related organism
  - (C) artificial classification puts plants and fungi in same division
  - (D) artificial classification based molecular and visible characters
  
3. A plant that has seeds but no flowers and fruits?
  - (A) Pine
  - (B) Ginkgo
  - (C) Spruce
  - (D) Oak
  
4. Pick the CORRECT match.
  - (A) Cycas – Dioecious
  - (B) Equisetum – Homosporous
  - (C) Salvinia – Heterosporous
  - (D) Pinus – Dioecious
  
5. Multiplication by fragmentation is the common characteristic of
  - (A) multicellular fungi
  - (B) filamentous algae
  - (C) reproduction in Monera
  - (D) protonema of mosses
  
6. Artificial classification” by Linnaeus was not accurate because
  - (A) it gave equal weightage to vegetative as well as the sexual mode of reproduction
  - (B) it was primarily based upon superficial morphological character like color, shape, and number of leaves
  - (C) it considered molecular and visible characters only
  - (D) it did not consider internal structure like anatomy, embryology, phytochemistry
  
7. Which of the following are CORRECT about nonparametric bootstrapping?
  - (A) A new multiple sequence alignment of the same length is generated with random duplication of some of the sites
  - (B) A new multiple sequence alignment of the distinct lengths is generated with random duplication of some of the sites
  - (C) Certain sites are randomly replaced by other existing sites
  - (D) Certain sites may appear multiple times, and other sites may not appear at all in the new alignment
  
8. Which of the following statements are TRUE about Caveats?

- (A) Unusually high GC content in the original dataset is the potential cause for generating biased trees
  - (B) Unusually accelerated evolutionary rates is the potential cause for generating biased trees
  - (C) Unusually accelerated evolutionary rates is the potential cause for generating biased bootstrap estimates
  - (D) Not a large number of bootstrap re-sampling steps are needed to achieve yielding results
9. The terminologies of phylogenetics is
- (A) the branching pattern in a tree is called tree topology
  - (B) when all branches bifurcate on a phylogenetic tree, it is referred to as dichotomy
  - (C) in case of dichotomy, each ancestor divides and gives rise to multiple descendants
  - (D) an unrooted phylogenetic tree does not assume knowledge of a common ancestor
10. To use molecular data to reconstruct evolutionary history requires making a number of reasonable assumptions. Which of the following are CORRECT about it?
- (A) The molecular sequences used in phylogenetic construction are homologous
  - (B) The molecular sequences used in phylogenetic construction share a common origin
  - (C) Phylogenetic divergence cannot be bifurcating
  - (D) Parent branch splits into two daughter branches at any given point

**Answer**

- 1. (A), (B), (D)
- 2. (B), (C)
- 3. (A), (B), (C)
- 4. (A), (B), (C)
- 5. (A), (B), (D)
- 6. (A), (B), (D)
- 7. (A), (C), (D)
- 8. (A), (B), (C)
- 9. (A), (B), (D)
- 10. (A), (B), (D)