

## Chapter 11 Microbial Ecology

1. Which of the following are expected to be the abundant inhabitants of a nitrate and sulfate rich soil naturally depleted for oxygen?  
(A) *Pseudomonas*  
(B) *Azotobacter*  
(C) *Thiobacillus*  
(D) *Desulfovibrio*
2. Nitrogenase reduces  $N_2$  to  $NH_3$ . Metal co-factors required for this activity are  
(A) Fe  
(B) Cu  
(C) Mo  
(D) Mn
3. Which of the following bacterial species fixes atmospheric nitrogen?  
(A) *Clostridia*  
(B) *Rhizobia*  
(C) *Lactobacillus*  
(D) *Mycoplasma*
4. Syntropy is the phenomenon  
(A) defines the critical interdependency between producer and consumer  
(B) where one microorganism degrades a substance and uses it  
(C) where one microorganism degrades the substance and the other microorganism uses it  
(D) where two or more microorganisms cooperate to degrade a substance which neither can do alone
5. Which of the following comes under the category of negative association?  
(A) Neutralism  
(B) Parasitism  
(C) Commensalism  
(D) Ammensalism
6. Rhizospheric interaction of fungi influenced by  
(A) number of microorganisms  
(B) type of microorganisms  
(C) type of minerals present  
(D) specific plant root exudates
7. Natural occurring radioactive carbon isotopes are  
(A) Carbon – 11  
(B) Carbon – 12  
(C) Carbon – 13  
(D) Carbon – 14
8. Symbiotic nitrogen-fixing cyanobacteria are present in  
(A) *Azolla*

- (B) Gnetum
- (C) Anthoceros
- (D) Cycas

9. Mark the CORRECT match.
- (A) Denitrification – *Pseudomonas*
  - (B) Nitrogen fixation by free-living microbe – Azobacter
  - (C) Oxidation of H<sub>2</sub>S to sulfur – *Clostridia*
  - (D) Nitrogen fixation by a symbiotic microbe – *Rhizobium*
10. Enzyme involved in nitrogen fixation are
- (A) nitrogenase
  - (B) hexokinase
  - (C) hydrolase
  - (D) hydrogenase

**Answer**

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