

Biological Entrepreneurship and Natural Systems

Entrepreneurship · Answer Key · 10 Questions

1. Which social insect species exhibits 'farming' behavior by cultivating specific fungi species within their nests to process cellulose?

A) Leafcutter ants (*Atta*)

- B) Honey bees (*Apis mellifera*)
- C) Common wasps (*Vespula vulgaris*)
- D) Termites (*Isoptera*)

2. In evolutionary game theory, which strategy involving the 'tit-for-tat' dynamic is observed in cleaner fish (*Labroides dimidiatus*) when they provide services to 'client' reef fish?

A) Biological market theory

- B) Resource depletion strategy
- C) Parasitic niche exploitation
- D) Commensalistic mimicry

3. What is the term for the 'investment' made by Acacia trees which provide specialized structures called Beltian bodies to *Pseudomyrmex* ants?

A) Myrmecophytic symbiosis

- B) Resource monopolization
- C) Endosymbiotic mutation
- D) Niche colonization

4. Which marine organism engages in 'kleptoplasty', essentially 'stealing' the chloroplasts from ingested algae to perform photosynthesis as an energy-harvesting business model?

A) *Elysia chlorotica* (Sea slug)

- B) *Aurelia aurita* (Moon jellyfish)
- C) Clam (*Tridacna gigas*)
- D) Coral (Anthozoa)

5. Beavers act as 'ecosystem engineers' by modifying waterways. What is the primary ecological 'return on investment' they gain from these structural modifications?

A) Predator avoidance and food storage

- B) Increased metabolic rate
- C) Social status within the colony
- D) Reduction in territorial range

6. Some orchid species (e.g., *Ophrys apifera*) utilize 'sexual deception' to ensure pollination. This is an example of which evolutionary business strategy?

A) Mimicry-based resource acquisition

- B) Parasitic host exploitation
- C) Mutualistic trade-off
- D) Competitive exclusion

7. In the 'biological market' of the cleaner wrasse, what factor dictates the 'price' of their cleaning service provided to client fish?

A) The supply and demand of parasites

- B) The geographical location of the reef
- C) The taxonomic order of the client
- D) The water temperature

8. Which animal species is known for 'hoarding' behavior that leads to the unintended 'venture capital' dispersal of tree seeds across large forest ecosystems?

A) Clark's nutcracker (*Nucifraga columbiana*)

- B) Red fox (*Vulpes vulpes*)
- C) Common raven (*Corvus corax*)
- D) Raccoon (*Procyon lotor*)

9. How do mycorrhizal networks act as a 'subterranean supply chain' between disparate plant species?

A) By transferring carbon and phosphorus in exchange for sugars

- B) By suppressing all other plant competition
- C) By emitting pheromones to deter herbivores
- D) By storing water for drought cycles

10. What 'startup cost' does the male Bowerbird pay to attract a mate through the construction of elaborate display structures?

A) High cognitive load and intense territorial maintenance

- B) An increase in metabolic energy expenditure for vocalization
- C) Permanent habitat relocation
- D) Loss of digestive efficiency