

Microeconomics in Nature

Microeconomics · Practice Test · 19 Questions

1. In many species, such as honeybees, the 'waggle dance' is a form of communication that conveys information about the direction and distance to a food source. This is an example of:

- A) Perfect information in a competitive market
- B) Asymmetric information
- C) Signaling to reveal quality
- D) Information economics and resource discovery

2. The optimal foraging theory suggests that predators will choose to consume prey that maximizes their net energy intake per unit time. For example, a lion might prioritize hunting zebras over wildebeest if zebras offer a better energy return for the effort involved. This illustrates the concept of:

- A) Diminishing marginal returns
- B) Price discrimination
- C) Rational choice and cost-benefit analysis
- D) Externalities in predation

3. When a group of meerkats cooperate to forage and watch for predators, with some individuals acting as sentinels while others search for food, they exhibit:

- A) A monopoly on foraging grounds
- B) Positive externalities from cooperation
- C) The tragedy of the commons
- D) Rent-seeking behavior

4. The concept of 'niche partitioning' in ecosystems, where different species evolve to utilize slightly different resources or habitats to avoid direct competition, is analogous to:

- A) Perfect price discrimination by a monopolist
- B) Product differentiation and market segmentation
- C) Collusion in a cartel
- D) Price ceilings in a regulated market

5. The red deer's dominance hierarchy, where stronger individuals monopolize access to mating opportunities and prime foraging areas, demonstrates:

- A) Consumer surplus
- B) Producer surplus and market power
- C) The law of demand
- D) Free rider problems

6. The phenomenon of 'mimicry' in nature, where a harmless species evolves to resemble a dangerous one (e.g., hoverflies resembling wasps), can be seen as a form of:

- A) Price signaling
- B) Adverse selection
- C) Moral hazard
- D) Information asymmetry and strategic signaling

7. When a river ecosystem is polluted by a factory upstream, the cost of the pollution (e.g., damaged fishing, health issues) that is borne by others is a classic example of:

- A) A public good
- B) A positive externality
- C) A negative externality
- D) Rivalry in consumption

8. The idea that limited resources, such as freshwater or grazing land, can be depleted by over-consumption by individuals acting in their own self-interest is known as:

- A) The law of supply
- B) The tragedy of the commons
- C) Comparative advantage
- D) Network externalities

9. The territorial defense of a food source by an animal, where it expends energy to prevent others from accessing its resources, represents an effort to establish:

- A) Economies of scale
- B) Property rights and exclusivity
- C) Natural monopoly
- D) Barriers to entry

10. In the study of whale migration, the significant energy expenditure for long journeys to breeding grounds suggests a high 'opportunity cost' of not feeding. This relates to:

- A) Diminishing marginal utility
- B) The concept of trade-offs and opportunity cost
- C) Perfect substitutes
- D) Elasticity of demand

11. The diversification of crops by farmers to reduce the risk of crop failure due to pests or disease is an application of the economic principle of:

- A) Monopolistic competition
- B) Risk management and portfolio diversification
- C) Price floors
- D) Bundling

12. The evolution of symbiotic relationships, where two species benefit from each other (e.g., clownfish and anemones), can be viewed as a microeconomic scenario where mutual benefit arises from:

- A) Zero-sum games
- B) Positive-sum interactions and specialization
- C) Predatory pricing
- D) Market failure

13. The phenomenon where a species' population growth is limited by the carrying capacity of its environment, leading to slower growth as resources become scarce, reflects:

- A) Increasing returns to scale
- B) Diminishing marginal returns to resources
- C) Perfect competition
- D) Price leadership

14. When a large predator species, like wolves, is reintroduced into an ecosystem and their presence influences the behavior and population dynamics of prey species (e.g., elk), it demonstrates:

- A) Market power of prey
- B) Top-down control and ecosystem services
- C) Price gouging
- D) Consumer sovereignty

15. The migratory patterns of birds, often timed with seasonal availability of food resources in different regions, are a testament to:

- A) Inelastic supply
- B) Adaptation to changing economic conditions (resource availability)
- C) Price elasticity of supply
- D) Oligopoly

16. The development of specialized tools by primates, such as using sticks to extract termites, is an example of:

- A) Barriers to entry
- B) Technological innovation and capital accumulation
- C) Price discrimination
- D) Economies of scope

17. The competitive exclusion principle states that two species competing for the exact same limited resources cannot coexist indefinitely. This is an outcome of:

- A) Market segmentation
- B) Intense competition and resource scarcity
- C) Price fixing
- D) Moral hazard

18. The 'precautionary principle' in environmental policy, which suggests taking preventive action in the face of uncertainty about potential environmental harm, is akin to:

- A) Speculative bubbles
- B) Risk aversion and hedging strategies
- C) Perfect information
- D) Price wars

19. When forest fires destroy timber resources, this represents a reduction in the economy's:

- A) Consumer demand
- B) Supply of natural capital
- C) Market equilibrium
- D) Barriers to exit