

Fundamentals of Game Theory

Game Theory · Practice Test · 12 Questions

1. Which mathematician is often credited as the founder of modern game theory through the publication of 'Theory of Games and Economic Behavior'?

- A) John von Neumann
- B) Alan Turing
- C) Claude Shannon
- D) Kurt Gödel

2. In the Prisoner's Dilemma, what is the 'dominant strategy' for an individual player when acting purely in their own rational self-interest?

- A) Cooperate
- B) Defect
- C) Remain Silent
- D) Randomize

3. What term describes a situation in a game where no player can benefit by changing their strategy while the other players keep theirs unchanged?

- A) Pareto Efficiency
- B) Zero-Sum Balance
- C) Nash Equilibrium
- D) Minimax Theorem

4. In game theory, what is a 'zero-sum' game?

- A) A game where everyone loses
- B) A game where one person's gain is exactly balanced by the losses of others
- C) A game that results in a draw
- D) A game with no clear winner

5. Who was the game theorist and mathematician whose life inspired the biographical film 'A Beautiful Mind'?

- A) John Nash
- B) Herbert Simon
- C) Robert Aumann
- D) Thomas Schelling

6. What is the primary focus of 'Cooperative Game Theory'?

- A) Individual profit maximization
- B) How coalitions or groups interact
- C) The study of war tactics
- D) Purely random outcomes

7. Which concept in game theory refers to a strategy that minimizes the maximum possible loss?

- A) Maximax
- B) Minimax
- C) Nash equilibrium
- D) Tit-for-tat

8. What classic game theory scenario demonstrates why two completely rational individuals might not cooperate, even if it appears that it is in their best interests to do so?

- A) The Ultimatum Game
- B) The Prisoner's Dilemma
- C) The Centipede Game
- D) The Hawk-Dove Game

9. In the context of the Ultimatum Game, if the 'proposer' offers a split and the 'responder' rejects it, what is the outcome for both players?

- A) Both receive nothing
- B) The proposer receives the full amount
- C) The responder receives the full amount
- D) They reset the game

10. What field of study heavily utilizes game theory to model the evolution of traits and social behaviors in animal populations?

- A) Quantum Physics
- B) Evolutionary Biology
- C) Geology
- D) Meteorology

11. What is the 'Tit-for-Tat' strategy most commonly associated with?

- A) The Iterated Prisoner's Dilemma
- B) The Ultimatum Game
- C) Zero-sum tournaments
- D) Auction theory

12. Which 1994 Nobel Prize in Economic Sciences was awarded to John Nash, Reinhard Selten, and John Harsanyi?

- A) Game Theory
- B) Macroeconomics
- C) Behavioral Finance
- D) International Trade