



## **[Frequently Asked Questions]**

### **Game Theory**

<b>Subject:</b>	Business Economics
<b>Course:</b>	B. A. (Hons.), 2 <sup>nd</sup> Semester, Undergraduate
<b>Paper No. &amp; Title:</b>	Paper – 201 Microeconomics II
<b>Unit No. &amp; Title:</b>	Unit – 1 Market with Imperfect Competition
<b>Lecture No. &amp; Title:</b>	Lecture – 4 Game Theory

## **Frequently Asked Questions**

### **Q1. What is game theory?**

**A1.** Game theory is concerned with choice of best or optimal or optimal strategy in conflicting situations. It explains the behavior of firms in oligopolistic markets.

### **Q2. How game theory can be used to explain behavior of firms in oligopoly market?**

**A2.** Game theory shows different strategies or course of action and return from these different strategies. It also shows how firms choose different strategies for a given strategies of the rival firms.

### **Q3. What are different types of strategies used by players?**

**A3.** There are two types of strategies that players use adopts. They are pure strategy and mixed strategy.

### **Q4. What is a payoff matrix?**

**A4.** A payoff is the outcome or consequence of each strategy. For each strategy adopted by a firm, there is usually a number of strategies available to a rival firm. The payoff is the outcome of each combination of strategies by firms. The payoff is expressed in terms of the profits or losses of the firm as a result of the firm's strategies and the rival's responses. The table giving the payoffs from all the strategies is called payoff matrix.

### **Q5. What is an optimal strategy?**

**A5.** It is the plan of action or strategy that puts a firm in most preferred position given the strategy of the rival firm.

**Q6. What is a dominant strategy?**

**A6.** In some situations, one firm's best strategy may not depend on the choice made by other firm. Thus a strategy which always gives the best return irrespective of what strategy other firms adopt, is called the dominant strategy of a firm.

**Q7. What is Prisoner's Dilemma?**

**A7.** In some cases, non-cooperative games can result in outcomes that are undesirable for the participants and also for the society. When firms in oligopolistic markets use pricing strategies to compete for profits, they usually are engaged in non-cooperative games because they are legally prohibited by competition laws from coordinating their prices. The concept of Prisoner's Dilemma is used to explain this type of behavior of the firms in oligopolistic markets.

**Q8. What is a pure strategy?**

**A8.** Pure strategy means that the player selects the same strategy every time irrespective of the strategy chosen by his rival.

**Q9. What is a mixed strategy?**

**A9.** The use of mixed strategy means that the players do not use a single strategy but a mix of strategies. Each player always keeps the other players guessing about the course of action that the firm is going to select in a particular situation. A mixed strategy is a strategy in which a player makes a random choice among two or more possible actions, based on a set of chosen probabilities.

**Q10. What is a Nash equilibrium?**

**A10.** The Nash equilibrium is the situation in which each player chooses his optimal strategy, given the strategy chosen by the other firm.