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Courses » Strategy: An Introduction to Game Theory

Announcements **Course** Ask a Question Progress

## Unit 8 - Week 7



## Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

- A Hawk-Dove Game
- Evolutionary Game Theory
- Evolutionary stable Strategy (ESS)
- ESS and NE
- Repeated Games
- Finitely Repeated Game having Multiple Equilibriums
- Chain-Store Paradox
- Infinitely Repeated Game
- Quiz : assignment -7

Week 8

## assignment -7

The due date for submitting this assignment has passed. **Due on 2017-03-14, 23:59 IST**  
As per our records you have not submitted this assignment.

Consider the following strategic games and answer the questions follow:

1) NE of the Game 1 is (are)

1 point

- (X, X)
- (Y, Y)
- Both
- None

**No, the answer is incorrect.****Score: 0****Accepted Answers:***Both*

2) NE of the Game 2 is (are)

1 point

- (X, X)
- (Y, Y)
- Both
- None

**No, the answer is incorrect.****Score: 0****Accepted Answers:***Both*

3) Evolutionary Stable Strategy (ESS) in Game 1 is (are)

1 point

- X
- Y
- Both
- None

**No, the answer is incorrect.****Score: 0****Accepted Answers:***Both*

4) Evolutionary stable Strategy (ESS) in Game 2 is (are)

1 point

- X
- Y
- Both

None

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

X

The members of a single population are randomly matched in pairs and play BoS, with payoffs given in following game table (L: Choose favorite concert and D: Choose less preferred concert)

5) This game has

- A unique symmetric mixed strategy equilibrium  
 No symmetric pure strategies NE  
 None  
 Both

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Both*

6) Mixed strategy NE of this game is

- $((2/3, 1/3), (2/3, 1/3))$   
  $((1/3, 2/3), (1/3, 2/3))$   
  $((2/3, 1/3), (1/3, 2/3))$   
  $((1/3, 2/3), (2/3, 1/3))$

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

$((2/3, 1/3), (2/3, 1/3))$

7) Evolutionary stable mixed strategy of this game is

- $(2/3, 1/3)$   
  $(1/3, 2/3)$   
  $(3/4, 1/4)$   
  $(1/4, 3/4)$

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

$(2/3, 1/3)$

Consider the following prisoners' dilemma game and answer the following questions

8) Unique NE of this game is

- (C, C)  
 (D, D)  
 Both  
 None

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

$(D, D)$

9) If this game is repeatedly played finite times



1 point

1 point

1 point

1 point

1 point

- In the last period Cooperate is a dominant strategy irrespective of history of the game
- In the last period Defect is a dominant strategy irrespective of history of the game
- In the last period Cooperate is a dominant strategy for a particular game history
- In the last period Defect is a dominant strategy for a particular game history

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*In the last period Defect is a dominant strategy irrespective of history of the game*

10) SPNE of this twice repeated PD game is

- (C, C)
- (D, D)
- Both
- None

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*(D, D)*

11) SPNE of this PD game if it is repeated T (some finite no. bigger than 2) times, is

- (C, C)
- (D, D)
- Both
- None

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*(D, D)*

12) In an infinitely repeated PD game

- There is a unique equilibrium
- There are multiple equilibria
- There is no equilibrium
- None

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*There are multiple equilibria*

13) In an infinitely repeated PD game

- Cooperate is always an equilibrium
- Defect is always an equilibrium
- Equilibrium depends on discount factor
- None

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Equilibrium depends on discount factor*

14) Suppose, In an infinitely repeated given PD game players use the following non forgiving strategy S:

Play Cooperate (C) in every period unless someone has ever played Defect (D) in the past and Play Defect (D) forever if someone has played Defect (D) in the past. This strategy is an SPNE if ( $\delta$  is per period discount factor for both the players)

- $\delta \leq 1/2$



1 point

1 point

1 point

1 point

2 points

- $\delta \geq 1/2$
- $\delta \leq 1/3$
- $\delta \geq 1/3$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\delta \geq 1/2$



Previous Page

End

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