Game Theory 12-03

Exercises: Signaling, Screening, and Dynamic Games

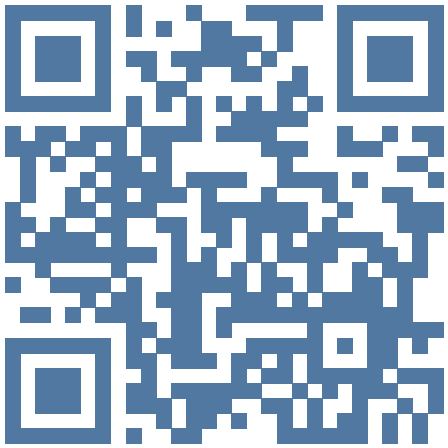
BCSE Game Theory

Jan. 8, 2026

Exercise Session

Signaling, Screening, and Information Cascades

Answer on Google Slides



https://sites.google.com/vju.ac.vn/bcse-gt

- Submit one PDF per team.
- For Q2, show the constraints clearly.
- For Q4, explain the belief update logic step-by-step.

Notes

1. Q1 checks if you understand the Single Crossing Property condition.
2. Q4 involves "Herding" where private information is ignored.

Q1. Signaling (Discrete Choice)

Q1. Education Decision

$\theta \in \{5, 10\}, p = 0.5. e \in \{0, 1\}. c(1, 5) = 4, c(1, 10) = 2. (c(0, \theta) = 0).$

1. **Check Single Crossing Property**:
   - Cost of signaling: $C_L = 4, C_H = 2$. Is $C_L > C_H$ (SCP)?
2. **Separating Equilibrium**:
   - Strategy: High chooses $e = 1$, Low chooses $e = 0$.
   - Wage: $w(1) = 10, w(0) = 5$.
   - Check **IC** for both:
     - Low prefers $(0, 5)$ over $(1, 10)$? $(5 - 0 \geq 10 - 4?)$
     - High prefers $(1, 10)$ over $(0, 5)$? $(10 - 2 \geq 5 - 0?)$
   - Is this an equilibrium?