
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR
Algorithmic Game Theory 2021-22: Third Class Test

Date of Examination: 23rd October 2021

Duration: 20 minutes (for writing answers) + 5 minutes (for taking photos, concatenating, and uploading to moodle)

Subject: CS60025 Algorithmic Game Theory

The last digit of your roll number from right be d .

- (i) Consider a Bayesian game with 2 players; the cardinality of the type set of the first player is $d + 5$ and the cardinality of the type set of the second player is $d + 7$. The cardinality of the strategy set of the first player is $10 * (d + 1)$ and the cardinality of the second player is $10 * (d + 2)$. Write the corresponding Selten game. Explain your answer.
- (ii) Consider an extensive form game with 2 players. Player 1 plays her action first, then the player 2 plays her action, and then both the players receive their utilities. Suppose player 1 has $d + 5$ actions and player 2 has $d + 10$ actions. Also, each information set is singleton. Write down the corresponding strategic form game. Explain your answer.

[5+5 Marks]