

CS-661 AI Midterm Exam

0. What is your name?

1. Explain five of the following (**5 points each**) :

- A intelligent agents and environment simulators
- B simple reflex agents and reflex agents with memory
- C microworlds (give examples)
- D blind search and informed search
- E greedy and A* Search
- F $NP = P$ or $NP \neq P$
- G halting problem and Gödel's Theorem

2. (**30 points**) What is *intelligence* ? What is the Turing test? What is the Chinese room experiment? What is GOFAI and strong AI?

3. (**30 points**) In the missionaries and cannibals problem three missionaries and three cannibals want to cross a lake. They have a boat which can only carry one or two people at a time, and the missionaries never want to be outnumbered by cannibals on either side of the lake.

- A What are the initial and goal states?
- B What are the expansion operators?
- C What would be a sensible cost function?
- D What states are obtained by breadth first search at depth one?
- E ... at depth two?
- F ... at depth three?