

CCS421/CCT419: Intelligent Agents

CAT-1: Sit-in Test

November 23rd, 2022
[Main Campus: Room TB3]

Instructions:

1. The **use of mobile phones** during this CAT is **prohibited**.

Switch off any mobile phone in your possession and never attempt to use it during this CAT.

2. This CAT paper comprises two (2) questions.

The answer to each question shall be marked out of the sum of all the marks indicated beside it.

3. Attempt all questions.

1. (a) i. Describe the basic framework within which all the known approaches to the synthesis of Artificial Intelligence (AI) may be fitted. (4 marks.)
ii. Categorize all the known approaches to AI on the basis of the framework that you have described in part 1(a)i. (4 marks.)
(b) i. Explain the basic concept of an agent as used in the context of AI. (2 marks.)
ii. What is a rational agent? (2 marks.)
2. (a) Discuss the significance of the term PEAS with regard to the rationality of an agent. (5 marks.)
(b) Give a PEAS description of the task of taking a sit-in Continuous Assessment Test (CAT). (6 marks.)
(c) Characterize a football game from the point of view of agent rationality. (7 marks.)

- Pass the CAT*
- 1. Partially Obs vs Full Obs - able to see the entire football pitch and all activities happening → The ball passing
 - 2. Deterministic / non-deterministic → not sure team will win
 - 3. Static / Dynamic → By agent makes a decision, the ~~best~~ players are moving with time, ball
 - 4. Discrete / continuous → 1
 - 5. Multi-agent / single agent → more than 4 player
 - 6. Episodic / sequential → Doesn't depend on the current cycle? ~~next state~~
 - 7. Known / unknown → player knows all the rules of game

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1. Rational obs vs Full obs - able to see the entire football pitch and all activities happening → The ball passing
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