

--Question Starting--

3. Analyze the following statements about multi-agent systems:

Statement I: An agent in a multi-agent system operates based solely on pre-defined rules, without any capacity to learn or adapt from interactions.

Statement II: Ontologies in multi-agent systems serve to facilitate semantic interoperability and knowledge sharing among agents by providing a shared conceptualization.

In light of the above, select the correct option:

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Answer Key: 3

Solution:

? Statement I (Incorrect): Agents in multi-agent systems are typically designed to be autonomous and adaptive, often equipped with learning capabilities and decision-making processes that go beyond simple rule-based actions.

? Statement II (Correct): Ontologies formalize shared vocabulary and relationships, enabling agents to interpret, share, and reason about knowledge consistently, thus enhancing semantic interoperability.

Hence, Option (3) is the right answer.