

--Question Starting--

3. Consider the following statements related to Multi Agent Systems:

Statement I: In a multi-agent system, agents can be designed to operate independently and communicate through a shared ontology, enabling effective knowledge sharing and coordination.

Statement II: The use of agent communication languages like KQML or FIPA-ACL is essential for semantic web integration, as they facilitate the exchange of complex, structured information among agents.

In light of the above statements, choose the correct answer from the options given below:

- (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(Correct): Multi-agent systems rely on autonomous agents that communicate and coordinate via shared ontologies, which define common vocabularies and semantics for effective knowledge sharing.

? Statement II(Incorrect): While agent communication languages like KQML and FIPA-ACL are important for agent interaction, they are primarily designed for agent communication rather than direct semantic web integration. Semantic web integration typically involves ontologies, RDF, and OWL, rather than these agent-specific languages. Hence, their primary role is in agent communication, not directly in semantic web integration.

Hence, Option (3) is the right answer.