PAPER ID-310012

Subject Code: KAI501

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM V) THEORY EXAMINATION 2023-24
ARTIFICIAL INTELLIGENCE

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

Q no.	Question	Marks	CO
a.	Explain Artificial intelligence impacting everyday life.	2	CO1
b.	Explain the concept of default reasoning in artificial intelligence.	2	CO1
c.	Explain the concepts of Skolemization.	2	CO1
d.	Discuss decision-making in the context of game-playing algorithms.	2	CO1
e.	Explain Uniform-cost search algorithm.	2	CO1
f.	Define backtracking in the context of search algorithms.	2	CO1
g.	Define existential generalization in the context of first-order logic	2	CO1
h.	Explain the importance of consistency in logical systems.	2	CO1
i.	Discuss the consideration of temporal aspects in the architecture of intelligent agents.	2	CO1
j.	Define the decision-making module in the architecture of intelligent agents.	2	CO1

SECTION B

2. Attempt any *three* of the following:

a.	Discuss how this approach has been successfully applied in a real-world scenario, outlining challenges and outcomes	10	CO2
b.	How does the representation of objects contribute to the development of structured ontologies	10	CO2
c.	How can cross-domain trust models contribute to more versatile and effective multi-agent interactions?	10	CO2
d.	Discuss the limitations of these metrics and propose alternative approaches for more accurate assessments.	10	CO2
e.	What impact will AI have on privacy and data security, and what measures should be in place to protect individuals in the future?	10	CO2

SECTION C

3. Attempt any *one* part of the following:

a.	Explain the concept of default reasoning in artificial intelligence.	10	CO3
b.	Provide examples of scenarios where alpha-beta pruning is highly effective in speeding up decision-making.	10	CO3

4. Attempt any *one* part of the following:

a.	Identify challenges that may arise as AI technologies advance and discuss strategies for addressing these challenges in problem-solving approaches.	10	CO3
b.	Discuss challenges and considerations in modeling dynamic processes and events within ontological frameworks	10	CO4

5. Attempt any *one* part of the following:

a.	Discuss how Nash equilibrium and cooperative game theory concepts apply to negotiation scenarios.	10	CO4
b.	Discuss how neural networks, particularly transformers, have revolutionized natural language processing task	10	CO4

6. Attempt any *one* part of the following:

a.	Provide examples of how supervised or reinforcement learning can enhance the decision-making capabilities of AI systems	10	CO5
b.	Discuss the importance of a well-defined problem representation in the success of backtracking algorithms	10	CO5

7. Attempt any *one* part of the following:

a.	Explore recent advances or extensions to FOPL that address these challenges and enhance its usability.	10	CO5
b.	Discuss emerging trends in Machine Translation, including potential advancements and challenges in the future	10	CO5