May – Jun 2025
B. Tech Program: Artificial Intelligence & Data Science Scheme :-III
~~Supplementary~~ ~~Regular~~ Examination: SY Semester: IV
Course Code: AIC404 and Course Name: AI Algorithms & Ethics

Date of Exam: 4/8/2025   Duration: 02.5 Hours   Max. Marks: 60

Instructions:
(1) All questions are compulsory.
(2) Draw neat diagrams wherever applicable.
(3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q.1	Solve any **two** questions out of three: (05 marks each)	10		
a)	Compare with explanation Min-Max and Alpha-Beta Pruning algorithms ensure optimal decision-making?		3	Ap
b)	Compare and contrast the structure of a utility-based agent, and a learning agent. Provide use cases for each.		2	Ap
c)	How does Alpha-Beta Pruning optimize the Min-Max algorithm?		3	Ap
Q.2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Define AI ethics and discuss its scope in modern AI systems.		4	R
b)	Critically analyze the distribution of responsibility in the context of unintended consequences.		5	An
c)	Implement an action plan for preparing society for the ethical challenges posed by AGI and ASI, involving governments, industries, and the public.		6	Ap
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Explain different application of AI in various areas		1	R
b)	How has the historical evolution of AI ethics shaped the current discourse on ethical considerations in AI?		4	R
c)	Distinguish accountable for the outcomes of AI systems: developers, users, or companies?		5	An
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Compare and contrast the structure of a simple reflex agent, and a goal-based agent,. Provide use cases for each.		2	An
b)	Compare and contrast Breadth-First Search , Depth-First Search and Depth-Limited Search. Discuss their advantages, limitations, and practical applications.		3	An
c)	Test a system for monitoring AGI's development to ensure it remains aligned with ethical standards.		6	Ap

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