K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

May – Jun 2025
B. Tech Program: Artificial Intelligence & Data Science Scheme :-III
Regular Examination: SY Semester: IV
Course Code: AIC404 and Course Name: AI Algorithms & Ethics
Duration: 02.5 Hours   Max. Marks: 60

Date of Exam:26/5/2025

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 Greedy Best-First Search and A* Search in terms of optimality, efficiency, and completeness.		3	An
b)	How to support the role of problem-solving agents in AI. How are problems formulated for these agents,		2	E
c)	Using the Steps of DFID and evaluate any one real world problem		3	Ap
Q.2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Discuss the ethical challenges posed by AI-driven surveillance technologies		4	U
b)	Critically analyze how AI exacerbates or reduces global inequality.		5	Ap
c)	Identity the potential consequences of ASI gaining autonomous decision-making power in global governance.		6	U
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	How do you solve whether an thinking rationally in real-world scenarios to particular application		1	Ap
b)	Explain the sources of bias in AI systems, such as data, algorithms, and human factors.		4	R
c)	Discuss the ethical implications of the digital divide and unequal access to AI technologies.		5	An
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Compare the challenges of agents in applying search strategies to real-world example problems		2	Ap
b)	Analysis the node Input: adj = [[1, 2], [0, 2], [0, 1, 3, 4], [2], [2]] using BFS(Breath first Search)		3	Ap
c)	Do you think AGI or ASI poses a greater risk to humanity? Justify your opinion.		6	An

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