

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

Nov-Dec 2023

B.Tech Program: **Artificial Intelligence & Data Science** Scheme-II  
Examination: TY Semester: V  
Course Code: **AIC501** and Course Name: **Artificial Intelligence**

Date of Exam: 28/11/2023

Duration: 2.5 Hours

Max. Marks: 60

**Instructions:**

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

		Max. Marks	CO	BT level
<b>Q 1</b>	<b>Solve any six questions out of eight.</b>	<b>12</b>		
i)	List types of learning.	2	CO4	R
ii)	List down the characteristics of intelligent agent.	2	CO1	R
iii)	List the properties of task environments.	2	CO2	R
iv)	What is Simulated Annealing?	2	CO3	U
v)	What is PEAS?	2	CO2	U
vi)	Compare between problem solving and planning.	2	CO5	An
vii)	What are AI applications in Retail?	2	CO6	U
viii)	What is planning in AI?	2	CO5	U
<b>Q.2</b>	<b>Solve any four questions out of six.</b>	<b>16</b>		
i)	Show that $(p \wedge q) \rightarrow (p \vee q)$ is a tautology.	4	CO4	An
ii)	Discuss about the biggest challenges of AI in Healthcare.	4	CO6	U
iii)	List advantages of Artificial Intelligence.	4	CO1	U
iv)	Explain about supervised learning.	4	CO5	U
v)	Explain a simple reflex agent with a diagram.	4	CO2	U
vi)	Discuss about IDDFS and apply it to an example.	4	CO3	Ap

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<b>Q.3</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
<b>i)</b>	Discuss in detail about current trends in Artificial Intelligence.	<b>8</b>	<b>CO1</b>	<b>U</b>
<b>ii)</b>	Compare between reinforcement learning and supervised learning.	<b>8</b>	<b>CO5</b>	<b>An</b>
<b>iii)</b>	Draw the block diagram of backward chaining and explain it in detail.	<b>8</b>	<b>CO4</b>	<b>U</b>
<b>Q.4</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
<b>i)</b>	Explain with diagram about Model-Based Reflex Agent.	<b>8</b>	<b>CO2</b>	<b>U</b>
<b>ii)</b>	Explain A* algorithm with example	<b>8</b>	<b>CO3</b>	<b>Ap</b>
<b>iii)</b>	Discuss about Applications of AI in Banking.	<b>8</b>	<b>CO6</b>	<b>Ap</b>

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