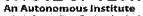
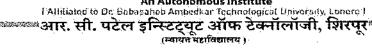


Date: 07/01/2023

Shirpur Education Society's

R. C. PATEL INSTITUTE OF TECHNOLOGY, SHIRPUR







A.Y. 2022-23-Year-III /Semester-V

Program: B.Tech (COMP ENGG)

Max Marks:75

Course: Artificial Intelligence (PCCO5030T)

Time: 10.30am-01.30 pm

Duration: 3 Hrs

END SEMESTER EXAMINATION ODD SEM- V – JAN- 2023

Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover page of the Answer Book, which is provided for their use.

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- (1) This question paper contains two pages.
- (2) All Questions are Compulsory.
- (3) All questions carry equal marks.
- (4) Answer to each new question is to be started on a fresh page.
- (5) Figures in the brackets on the right indicate full marks.
- (6) Assume suitable data wherever required, but justify it.
- (7) Draw the neat labelled diagrams, wherever necessary.

Question No.		Max. Marks
Q1 (a)	Give PEAS description for an Automated taxi agent. Characterize and justify its task environment.	[10]
	OR	
	Explain following agent in detail with diagram	
	i. Model based reflex agents	[10]
	ii. Learning agents	
Q1 (b)	What is heuristic function? What are the qualities of a good heuristic?	[05]
Q2 (a)	Explain Depth First Iterative Deepening (DFID) algorithm with a suitable example and analyze its performance. Show tree traversal using DFID.	[10]
	OR	
	Demonstrate the working of Hill Climbing algorithm using World block problem and analyze its performance.	tig i kredesirisi t
Q2 (b)	Explain the steps in the Genetic Algorithm.	[05]
Q3 (a)	Explain quantifiers in FOL? Demonstrate Unification using suitable example.	[10]
	OR	
	Write FOL and CNF statements for the following: i. Every child loves every candy	[10]
	ii. Anyone who loves some candy is not a nutrition fanatic.iii. Anyone who eats any pumpkin is a nutrition fanatic.	
	iv. Anyone who buys any pumpkin either carves it or eats it.	•
	v. John buys a pumpkin.	
	vi. Lifesavers is a candy.	
	vii. If John is a child, then John carves some pumpkin.	
Q3 (b)	Differentiate Forward chaining and Backward Chaining	[05]

Q4 (a)	Explain Partial Order Planning in detail with suitable example.	[10]
1	OR	
	Illustrate the working of Backward State Space Planning with example in detail.	[10]
Q4 (b)	Explain various Fuzzy set operations.	[05]
Q5 (a)	What is linear separability? Design AND Gate using McCulloch Pitts Model. (Assume suitable weights and input).	[10]
	OR	
	Demonstrate the working of Feed Forward Network.	[10]
Q5:(b)	Draw and describe the architecture of Expert System.	[05]

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