Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII EXAMINATION – WINTER 2015

•		Code:180703 Date:12/12 /2015 Name: Artificial Intelligence (Department Elective-II)		
Time	e: 2:	30pm to 5:00pm Total Marks: 70		
Instru	1. 2. 1	s: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	Describe different heuristics for the following types of problems: i. Blocks world ii. Tic Tac Toe	07	
	(b)		07	
Q.2	(a)	Solve following cryptarithmetic problem with appropriate strategy/steps: E A T + T H A T	07	
	(b)	A P P L E Discuss hill climbing search method. Also discuss limitations and ways to overcome these limitations. OR	07	
	(b)		07	
Q.3	(a) (b)	Discuss A* algorithm. Give one example where it is suitable to apply. Consider the following axioms: 1. Anyone whom Mary loves is a football star. 2. Any student who does not pass does not play. 3. John is a student. 4. Any student who does not study does not pass. 5. Anyone who does not play is not a football star. Prove using Resolution - "If John doesn't study, Mary doesn't love John." OR		
Q.3	(a) (b)	Discuss AO* algorithm. Give one example where AO* is suitable to apply.	07 07	
Q.4	(a)(b)	What is linearly separable problem? Design a perceptron for any of such problem. State one example of a problem which is not a linearly separable. Explain Min-Max search procedure with an example. OR		
Q.4	(a) (b)	Discuss perceptron learning algorithm. Explain Bayesian Network in detail.	07 07	
Q.5	(a) (b)	Explain Semantic Net in detail. Explain example of partitioned Semantic Net. Write a Prolog program to find the factorial of a number. OR	07 07	
Q.5	(a) (b)	Explain each step of Natural Language Processing in detail.	07 07	