Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2720510 **Date: 02/06/2016**

Subject Name: Introduction to Artificial Intelligence

Time:10:30 am to 01:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Solve the following crypt arithmetic problem. U S A + U S S R P E A C E	**07**
	(b)	Discuss the major areas of Artificial Intelligence.	**07**
Q.2	**(a)**	Explain the following heuristic search strategies. - Iterative Deepening A* - Recursive Best first search	**07**
	(b)	Most game-playing programs do not save search results from one move to next. Instead, they usually start completely over whenever it is the machine's turn to move. Why?	**07**
		OR	
	(b)	Explain Alpha-Beta Cutoffs using proper example of your choice.	**07**
Q.3	**(a)**	Discuss the issues in knowledge representation.	**07**
	(b)	Explain the procedure for Conversion to clause form.	**07**
		OR	
Q.3	**(a)**	Construct partitioned semantic net representations for the following. - Every batter hit a ball. - All the batters like the pitcher.	**07**
	(b)	Explain Winston's Learning Program.	**07**
Q.4	**(a)**	Discuss the features of Hopfield Network.	**07**
	(b)	Explain the Min-max composition and Max-product composition.	**07**
		OR	
Q.4	**(a)**	Discuss the steps for the development of expert system.	**07**
	(b)	Explain the algorithm for Fixed-Increment perceptron learning.	**07**
Q.5	**(a)**	What are the applications of MYCIN? Also discuss recent developments in the expert systems.	**07**
	(b)	Solve the 8-puzzle problem using heuristic of your own choice.	**07**
		OR	
Q.5	**(a)**	Differentiate the Forward reasoning and Backward reasoning.	**07**
	(b)	Explain Co-relation and Regression.	**07**

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