Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEMESTER II EXAMINATION – SUMMER 2017

Subject Code: 2720819 **Date: 30/05/2017**

Subject Name: Artificial Intelligence

Time:02:30 PM to 05:00 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)**	Describe the knowledge representation and knowledge acquisition.	**07**
	(b)	Write the applications of AI.	**07**
Q.2	**(a)**	Explain with example in context of LISP language: atom, list and string.	**07**
	(b)	Explain the recursion function and mapping function with examples in context of LISP.	**07**
		OR	
	(b)	Write a PROLOG program that answers questions about family members and relationships. Include predicates and rule which define father, mother, sister, brother, grandchild, grandfather and uncle. Write assumption if any.	**07**
Q.3	**(a)**	Explain the properties of statements.	**07**
	(b)	Describe Bayesian probabilistic inference in brief.	**07**
		OR	
Q.3	**(a)**	Discuss best-first search and depth-first search techniques.	**07**
	(b)	Write short note on virtual facts and catching.	**07**
Q.4	**(a)**	Discuss the general matching process.	**07**
	(b)	Explain the algorithms of fuzzy matching.	**07**
		OR	
Q.4	**(a)**	Classify the match variables and give example for each of them.	**07**
	(b)	Describe the indexing and retrieval techniques.	**07**
Q.5	**(a)**	Write the difference between top-down technique and bottom-up parsing technique.	**07**
	(b)	Discuss the syntactic classification process with suitable example.	**07**
		OR	
Q.5	**(a)**	Write the typical areas of application of computer vision system.	**07**
	(b)	Through block diagram represent the components of a typical expert system.	**07**

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