GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER II (OLD) EXAMINATION – SUMMER 2017

Subject Code: 1720203 Date:11/05					
Su Tii Ins	Subject Name: Artificial Intelligence Time: 10:30 A.M. to 01:00 P.M. Total Marks Instructions:				
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.			
Q.1	(a)	Explain building blocks of Expert system. Discuss in detail, major problems faced by current Expert system	07		
	(b)	State key features of genetic algorithm. Explain in detail any one application which can be effectively solved using genetic algorithm.	07		
Q.2	(a)	Discuss in brief, seven problem characteristics. Analyze 8 puzzle problem with	07		
	(b)	Explain A* algorithm with an example.	07		
	(b)	Discuss AND-OR Graph. Show usage of it with an example.	07		
Q.3	(a)	Explain Mini-max Search algorithm. Also describe how alpha beta cut off can improve search efficiency.	07		
	(b)	What is learning? Explain various learning techniques.	07		
Q.3	(a) (b)	Explain Constraint Satisfaction problem with an example. What is activation function and its usage? Discuss various activation functions in neural network.			
Q.4	(a) (b)	 Represent the following sentences in first-order logic, using a consistent vocabulary: Some students took French in spring 2001. Every student who takes French passes it. Only one student took Greek in spring 2001. The best score in Greek is always higher than the best score in French. Take the basic vocabulary be as follows: Takes(x,c,s) student x takes course c in semester s Passes(x,c,s) student x passes course c in semester s Score(x,c,s) the score obtained by student x in course c in semester s Greater(x,y) x is greater than y Consider the following sentences: If the unicorn is mythical, then it is immortal, but if it is not mythical, then it is a mortal mammal. If the unicorn is either immortal or a mammal, then it is horned. The unicorn is magical if it is horned 	07		
0.4		OR Evaluir validation algorithm Marting and another second in the first of the second se	^ -		
Q.4	(a)	Explain unification algorithm. Mention one example indicating how unification works.	07		
	(b)	Short note: single layer and multi layer neural network.	07		

Q.5	(a)	Short note: Fuzzy Inference System	07
	(b)	Short note: Semantic Nets	07
		OR	
Q.5	(a)	Discuss following search methods:	
		i. Breadth First Search	02
		ii. Depth First Search	02
		iii. Hill climbing	03
	(b)	Short note: Forward reasoning vs Backward reasoning	07
