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Subject Code: 180703

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VIII • EXAMINATION – SUMMER 2013

Date: 09/05/2013

Subject Name: Artificial Intelligence (Department Elective - II) 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) Explain the State Space with the use of 8 Puzzle Problem. 07 (b) Discuss the AI Problem Characteristics in detail. 07 Q.2 (a) Solve the following Cryptarithmetic Problem. 07 BES T MADEMASER (b) What is local maximum, Plateau and Ridge? 07 OR (b) Assume the following facts: 07 John likes all kinds of food. Apples are food. Chicken is food. Anything anyone eats and isnot killed by is food. Bill eats peanuts and is still alive. Sue eats everything Bill eats. Translate these sentences into formulas in Predicate logic Prove that John likes peanuts using backward chaining. Q.3 (a) Explain the Best-First-Search Procedure with example. 07 (b) What is Red Cut and Green Cut in Prolog? 07 OR (a) Demonstrate the use of Repeat Predicate in Prolog with example. Q.3 07 (b) Explain the Minimax Procedure with example. 07 (a) Explain Probability and Bayos Theorem. Q.4 07 (b) Write a prolog program to solve Tower of Hanoi Problem. 07 OR **Q.4** (a) What is Non-monotonic Reasoning. 07 (b) Describe the Expert System Development Procedure. 07 Q.4 (a) Explain semantic net and frames with proper example. Q.5 07 (b) Explain the Bayesian Networks. 07 OR (a) Describe briefly the applications of Neural Networks. 07 Q.5 (b) Explain Semantic and Syntactic analysis in NLP. 07
