

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (old) - EXAMINATION – SUMMER 2018

Subject Code:180703

Date:04/05/2018

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 & Solve Water-Jug Problem. 07
(b) Explain the State Space with the use of 8 Puzzle Problem. 07
- Q.2 (a) Given an example of a problem for which breadth-first search would work better than depth-first search. 07
(b) Explain the Forward and Backward Reasoning. 07
- OR**
- (b) Explain A* algorithm in detail. 07
- Q.3 (a) Solve The following Crypt arithmetic problem: 07
C R O S S
+ R O A D S

D E N G E R
(b) Explain Proposition Calculus. 07
- OR**
- Q.3 (a) Explain & write solution of Tower of Hanoi with PROLOG. 07
(b) Explain Game Playing using the Minimax Procedure. 07
- Q.4 (a) Explain Semantic Net and Frame with example. 07
(b) Explain steps of Natural Language Processing. 07
- OR**
- Q.4 (a) What is an expert system? Explain Architecture of an Expert system. 07
(b) Explain following terms with reference to Prolog programming language: 07
Clauses, Predicates, Domains, Goal, Cut, Fail, Inference engine
- Q.5 (a) Write a prolog program to find sum of all the numbers of a list. 07
(b) Explain simulated annealing algorithm. 07
- OR**
- Q.5 (a) Explain applications of Artificial Neural Networks 07
(b) Write a prolog program to find maximum number from a list. 07
