

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER II (OLD) – • EXAMINATION – SUMMER 2016

Subject Code: 1720203

Date: 19/05/2016

Subject Name: 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) Analyze Travelling Salesman Problem (TSP) problem with respect to seven problem characteristics. **07**
(b) Write a note on Expert system including its characteristics. **07**
- Q.2** (a) Discuss A* algorithm in brief. Also explain the terms f, g, h, OPEN and CLOSE in A* algorithm with example. **07**
(b) Short note: Hill climbing search with its advantages and disadvantages. **07**
- OR**
- (b) What is heuristic search? Discuss any one in detail. **07**
- Q.3** (a) Short note: Constraint Satisfaction Problem. **07**
(b) Short note: Iterative Deepening Search. **07**
- OR**
- Q.3** (a) Discuss alpha-beta pruning. Compare it with min-max search method. **07**
(b) Explain semantic nets. How it improves the knowledge representation. Draw the Semantic net for following sentence: "Every dog has bitten a mail carrier". **07**
- Q.4** (a) Discuss Bayesian network and its usage in probabilistic reasoning. Give suitable example to explain. **07**
(b) Illustrate the use of First-Order-Logic to represent the knowledge. **07**
- OR**
- Q.4** (a) Explain monotonic and non-monotonic reasoning with examples. **07**
(b) Differentiate fuzzy logic and crisp logic. Also discuss various defuzzification methods. **07**
- Q.5** (a) Write steps to convert WFF into clause form. **07**
(b) Explain architecture of neural networks and application areas of neural networks. **07**
- OR**
- Q.5** (a) Short note: Evolutionary Computing. **07**
(b) Discuss Rote learning in detail. **07**
