Seat No.:	Enrolment No

## GUJARAT TECHNOLOGICAL UNIVERSITY M. E. SEMESTER - III • EXAMINATION - SUMMER • 2014

M. E. - SEMESTER - III • EXAMINATION - SUMMER • 2014 Subject code: 730802 Date: 05-06-2014 **Subject Name: Artificial Intelligence** Time: 02:30 pm - 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-1a** What is the role of AI and Expert system in Manufacturing Industry? 7 **O-1b** What is search? Explain Best-First search algorithm. 7 **Q-2a** Explain the ethics and risks of developing Artificial Intelligence. 7 **Q-2b** Explain A\* algorithm in details. 7 OR **Q-2b** What is heuristic search? Explain Hill Climbing search Algorithm. 7 7 **Q-3a** List and explain production rules for water jug problem. **Q-3b** Explain Perceptive Machine Learning in AI. 7 OR **Q-3a** Explain the Symbol based machine learning Process. 7 **Q-3b** Explain Crypt arithmetic puzzle solution with suitable illustration. 7 **O-4a** Explain recursion based search with suitable example in AI. 7 **Q-4b** Explain the terms 'Understanding, Reasoning and Learning' in AI. 7 **Q-4a** Explain the process of Understanding Natural Language in AI. 7 7 **Q-4b** Explain Pattern Directed search with suitable illustration. **Q-5a** Define and explain predicates and objects used in Prolog? 7 **Q-5b** Explain the mechanism of Artificial Neural Network in AI. 7 OR

\*\*\*\*\*

**Q-5b** Explain Ruled based Expert System of AI in Flexible Manufacturing system.

7 7

**Q-5a** Explain Control Structure of fuzzy system with suitable example.