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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Computer Science and Engineering

Semester End Examination; Dec. - 2019

Artificial Intelligence

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. What is AI? Discuss the applications of AI. 10
- b. Convert the following assumptions to predict calculus:
- i) John likes Pizza ii) Steve only like easy courses 10
- iii) John like all kinds of food iv) Everybody level somebody
- v) BW10l is a easy course.
- 2 a. Explain knowledge representations and rule based systems. 10
- b. Assume the following facts:
- i) Jane is Paul's mother
- ii) Jane is Mary's mother 10
- iii) What is relationship between Paul's and Mary's?
- iv) Write a predicate calculus for the same.

UNIT - II

- 3 a. Explain the Heuristic Search Techniques (Any two). 10
- b. Describe the eight puzzle problems with state space search tree. 10
- 4 a. Explain Greedy Hill climbing algorithm. 10
- b. Discuss Min-max search algorithm with example. 10

UNIT - III

- 5 a. Discuss the development stages of expert systems. 10
- b. Explain the applications of the expert system. 10
- 6 a. Explain the components of expert systems with diagram. 10
- b. Describe the characteristics and benefits of expert system. 10

UNIT - IV

- 7 a. What is Fuzzy logic? Why fuzzy logic? Give reasons. 10
- b. Explain the properties of fuzzy sets. 10
- 8 a. Explain the defuzzyfication methods. 10
- b. Explain the applications of fuzzy logic system. 10

UNIT - V

- 9 a. Explain the general procedures followed in genetic algorithm. 10
- b. Explain the applications of Ant Colony Intelligence. 10
- 10 a. Explain Swath Intelligence system. 10
- b. Explain the importance of Ant Colony paradigm. 10